THE AMERICAN
MEDICAL MONTHLY.

JULY, 1854.

PART I.—ESSAYS, MONOGRAPHS, AND CASES.

The Legal Relations of Physicians to their Patients. Extracts from a Lecture on the Rights and Liabilities of the Physician and Surgeon; being part of a course of lectures on Medical Jurisprudence, delivered in the Medical School of Dartmouth College. By JOEL PARKER, LL. D., Professor of Law in Harvard University, etc., etc.

IN some occupations in the service of the public, where an individual holds himself out as ready to perform a service to whoever may apply, the law requires him to render that service to whoever comes in a proper manner and is prepared to pay, so long as he thus holds himself out and is provided with the means. Such is the case with common carriers, stage-coach proprietors, and railroad corporations.

This principle, I think, has never been extended to the learned professions. It is not to divines, it could not well be to lawyers, and I am not aware of any intimation that a physician may not refuse an application for his services in the first instance.

But the question occurs, What obligation does he assume upon answering the call and proceeding to take charge of the case? I have found no case where this question has been litigated and settled.

Upon principle, there seems to be no good reason for holding, from the mere fact that the physician has been called and has prescribed, that there is a binding contract on his part to attend the patient until the termination of the disease. There is no contract upon the part of the patient to continue the employment until that period. He is at liberty to dismiss the physician at any time—and this without rendering a reason. He may so far recover, as not to desire the farther attendance of his physician whenever he chooses.

And so it seems that the physician may, in like manner, dismiss the patient when he elects so to do, with this qualification, arising from the nature of the case,—that he gives reasonable notice of his intention to abandon the employment, so that the patient may have a proper opportunity to employ another person in his stead.

By accepting the call and undertaking the care of the case, the physician undertakes generally for the performance of a service in a reasonable manner, but with no stipulation for the continuance of his attendance for any particular period. The contract of the patient is to pay for such service as shall be rendered.

It has been decided, that an attorney having engaged in a cause, if desirous of giving up the conduct of it must give reasonable notice of his intention so to do.

And I perceive no reason why the same principle may not hold good in relation to physicians.

There seems to be a sufficient reason why the physician, after commencing an attendance generally, should not desert the patient without notice, if the case requires farther treatment.

This responsibility on the part of medical men will not be a source of much difficulty.

For malpractice, a physician may in certain cases be exposed to a criminal prosecution.

There are several cases of this character against quacks and pretenders, but they have usually arisen from an attempt to commit some unlawful act, or from gross ignorance or negligence; and courts have been ready to excuse those who have erred with good intentions.

The danger of the educated physician does not lie here.

A physician is liable, also, to a civil action, for not exercising sufficient skill and care in the performance of his duty to his patients.

This is a principle fraught with danger to all medical men, and one requiring their profound consideration; not that they are subjected to a greater responsibility than that imposed upon other professions and occupations, nor that they are more likely to be heedless in the performance of their duties, but because of the peculiar means which the patient has above all other litigants, of misrepresenting his case, and of moving the sympathies of the jurors who pass upon it.

The rules which regulate this liability are deduced from the general principle of the law, that where any person undertakes for a reward, to perform a work for another, which requires skill for its accomplishment, he holds himself out as possessing the requisite knowledge and skill, and engages that he will exert and apply that skill in the performance of the work he undertakes. And if he does not possess the skill which is requisite,

and the employer, by reason of the want of it, suffers an injury; or if possessing it he does not use it, either from wilfulness or negligence, and damage is thereby sustained by the employer,—the party who undertakes the performance of the service is liable to a suit for the recovery of the damages sustained by his incapacity, wilfulness, or negligence.

Thus, the blacksmith who undertakes to shoe a horse, and ignorantly or negligently lames him; and the mechanic who, undertaking to repair a piece of machinery, fails, from incapacity or carelessness, to perform what he agrees to do, becomes answerable for the injury occasioned by his breach of duty. And so with the attorney-at-law who, from want of a competent knowledge of his profession, or from neglect in applying his professional skill to the case committed to him, is liable at the suit of the client for the damage thereby sustained.

In like manner and upon the same principle, a person who holds himself out as a physician and assumes the care of a patient, undertakes for the necessary skill to treat the disease in a proper manner, and to prescribe the medicines suited to counteract and cure, if perchance it may be cured, or to alleviate the pain of it so far as that may reasonably be done; and if he fail in the performance of the duty thus devolved upon him by his employment, whether the failure be the result of ignorance of his profession or want of due care in his prescriptions, if injury to the system of the patient, delay in the cure, or unnecessary pain, can be shown to have resulted from his want of skill or care, the patient may have an action to recover his damages. The rule applies with full force in surgical practice; and the great danger of the medical man lies here. Actions are rare, except in cases of surgery; and in cases of that character, the plaintiff generally comes into court with some visible deformity, which, however it may have been occasioned—whether by his negligence, restlessness, or wilfulness—excites sympathy; and being attributed to the mismanagement of the defendant, he is in great danger even when he has been in no fault.

Several cases of this character have fallen under my own observation.

The inquiry naturally arises, How may the medical man best avoid the danger of loss—loss of money, and perhaps to some extent loss of reputation—through such prosecutions. It has been suggested, that before acting in any case, he should require a bond or writing exonerating him from all responsibility, or perhaps containing a direct stipulation not to prosecute a case of failure to effect a cure.

Possibly, such a document may have a tendency to restrain the party who has executed it from instituting a suit; but it admits of very grave doubt whether it could have any legal operation to exempt the physician from any responsibility.

Theoretically, he is liable only for want of skill, or negligence; practi-

cally, he is in danger from an unreasonable claim, and from the sympathy of the jury. The document, to be of any avail as a legal bar to a right of action, would be in effect a contract that the physician should not be liable, even if he lacked skill or was guilty of negligence. But it has been held that it was against the policy of the law to permit a party to contract for exemption from the legal consequences of his own fraud; and gross negligence has been held equivalent to fraud.

Whether the principle would be extended farther, and held to embrace such a contract with a physician, remains to be seen.

Such a precaution may do no harm; but from the nature of the case it must be impracticable in some instances to procure such writing from the patient himself.

Another precaution in cases where danger of a suit may be apprehended, is to secure sufficient evidence of the state and progress of the case, from time to time, by an examination by other physicians and by intelligent men not of the profession, and therefore not liable to a suspicion that their testimony is influenced by an *esprit du corps*.

Another, when the patient is refractory or unreasonable, is to decline further attendance, assigning the reason, and giving reasonable time to procure another medical attendant. But whenever this course is resorted to, there should be plenary evidence respecting the state in which the case was left.

Other measures will suggest themselves as adapted, more or less, to each case as it arises. Perhaps none of them can give a perfect assurance of exemption from unreasonable prosecutions.

But something may yet be hoped from an intelligent public opinion, which shall rebuke this sponging of the profession to indemnify the patient, in many instances for the consequences of his own folly or negligence.

Clinical Lectures on some of the principal Diseases of the Eye. Delivered at the New York Medical College, East 13th Street, May, 1854, by ISIDOR GLÜCK, M. D., Cor. Fellow Med. Soc. of London.

[Continued from p. 432.]

CATARACT.

Eye specula, of Helmholtz, Coccius, Klaunig. Varieties of Cataract, Black cataract, etc., Secondary cataract, Spurious cataract, fib. alb. sang. pigment. Maturity, Complications, Treatment Medical and Surgical, etc.

GENTLEMEN! The Eye Speculum, or Ophthalmoscope, is an illuminating instrument which serves for examining the illuminated interior parts of the eye, and thus distinctly shows organic changes of the aqueous humor, of the lens and its capsule, of the vitreous humor, the retina, and choroidea, when unobservable by the naked eye. The necessity of such an instrument is obvious, if we reflect that the retina is almost entirely concealed from view to the naked eye. Various contrivances and modifications of them have been introduced for this purpose.

Helmholtz devised this speculum, which consists, as you observe, of *reflectors*, to illuminate the retina, and a *concave lens*, to bring its structure within our focus of vision. The reflectors are four parallel and well-polished slips of glass, which are fixed close by an open frame, which is fastened down by screws to the sides of a short square tube. One end of the tube is cut obliquely to form an angle of 56° with the base or other end. The exterior is bronzed, the interior lined with black velvet. A diaphragm and a biconcave lens, No. 12, are placed at the base, and secured by a hollow eye-piece, which can be screwed off and on so as to allow the lenses to be changed.

Method of using it.—The patient should be seated in a dark room; a good oil or gas lamp should be placed on his side, on a level with his eyes. The reflectors must be turned towards the eye to be examined (the pupil should be dilated by atropine), and must be adjusted so as to throw the light in the direction of the axis of the instrument on the eye to be observed. The observer, having closed one eye, looks through the biconcave lens, and is thus enabled to see the interior of the eye illuminated. The rays of light, on leaving the convex surface of the cornea, are convergent; but the observer's eye can only bring to a focus slightly convergent or parallel rays; the necessity, therefore, for interposing a concave lens in order to disperse the rays before entering the observer's eye, is evident. By some

management of this instrument, if the eye to be examined is turned inwards, you may see in the healthy eye the blood-vessels of the retina and the entrance of the optic nerve, which is recognized by its brilliant white color; it is not always easy to detect it, and some practice is required in the use of this instrument in order to bring them into view. Round about the optic nerve the color of the retina is clearest, and becomes darker towards each side. If the eye of the patient is directed inwards, the papilla nervi optici may be detected.

Coccius invented a speculum more suited to show the interior structure and changes of the eye. It consists, as you see, of a perforated mirror and a lens. The rays of light from a gas, or better, an oil lamp, are concentrated by the lens and thrown on the mirror. This is held before the eye to be examined, and the rays are thrown through the pupil on to the retina. The unabsorbed rays return in the same direction, and are received by the eye of an observer, which is behind the mirror, on the spot where it is perforated. The rays of light are reflected at an angle upon the mirror, and are conveyed to a focus on the retina by the media of the eye; the unabsorbed rays return on leaving the eye to the mirror whence they came, and are also received by the eye of the observer.

Method of using it.—The pupil of the eye having been dilated by atropine, the patient and surgeon are seated, as in the use of the other speculum. The mirror is held opposite the eye to be examined, the lens must be adjusted so that a bright concentrated light should be seen to fall on the pupil. The surgeon now applies his eye to the back of the mirror. This instrument must be held at different distances from the eye, until the retina is exposed to view, and its parts clearly seen by different movements of the eye. You see now the whole pupil illuminated by the concentrated light; if you interpose between the eye of the patient and the mirror, convex lens of one and three-quarters focus, at a distance of one inch, you will readily distinguish the magnified vessels, and see clearly the white, shining optic nerve. The lens must be held at a shorter distance from the eye than its focus is, in order to make allowance for the space from the cornea to the retina. An interposed biconvex lens will show the vessels clearly defined, but diminished. Its adjustment requires practice and patience. More manageable and simpler in its construction is the

Ophthalmoscope of Klaunig.

It consists of a perforated, biconvex lens of fourteen inches focus, is thirty-five millimetres in diameter, and is provided with a blackened hole of four and a half millimeters—one side of the lens is covered with foil and framed in a dark frame, to which a handle is attached. The best mirror for reflecting concentrated light is a concave one; but this causes an intense

and disturbing reflection from the cornea, and dazzles the eye of the patient; but in connection with a biconvex lens, the rays of light are broken twice by entering and leaving the lens; consequently, the divergent rays of light will be removed and the intensity of the flame thus diminished. In its effect, this mirror is equal to a concave mirror of three and a half inches focus.

Mode of using it.—In a dark room, or a place well shaded, the patient and surgeon may be seated, the light, oil or gas lamp, is to be placed on the opposite side of the eye to be examined; the speculum should be held about three and a quarter inches from the eye, in such a manner as to reflect the rays of the light and to throw them through the pupil on to the retina. The apex of the cone of light thus formed should fall behind the pupil, which, if it be a small one, must be dilated by atropine. I prefer the gas light to be placed above and behind the patient. As the mirror has to be adjusted and turned in different ways, the observer's eye is exposed to its influence, and the patient's eye is not sufficiently shaded when it is placed on the side. The observer applies his eye to the back of the mirror, the hole.

The application of it is more convenient, as you see, when the light is placed above and a little behind the head of the patient, as the mirror may be held directly opposite the eye without being turned sideways in order to illuminate it. By its use the slightest opacities may be detected and traced, be they in the lens or capsule or aqueous humor. The vessels, of course, will be invisible if there exists an opacity of the lens to a greater extent; however, even if the opacity may not be as yet traceable, and some change still exists in the transparent media, the greatest difficulty will be found in bringing the vessels into view. I examined several cataract patients with this speculum but a few days ago, and I readily distinguished the opacities situated in the lens and those of the capsule. In one instance, a woman, about forty years of age, I could trace the opacity from the centre towards the periphery. The opacity formed a tripartite division of the lens, which could be seen even without the use of a magnifying glass. In another individual the opacity could be detected on the periphery of the capsule, in form of longitudinal streaks, situated close to each other and presenting the appearance of eye-lashes turned downwards and outwards. In the right eye of the same old man, there were opacities in the form of round spots on the capsule; and at the same time a synechia posterior, confined to one spot, where the uvea of the iris was connected with a part of the lower margin of the lens, was distinctly visible by application of the magnifying glass before the eye speculum. The latter individual was also subjected to the examination by the use of Coccius' speculum. I had some difficulty in tracing the vessels, as they were partly masked by the opacity of the lens; the other reason may be that my Klaunig's speculum was deprived of the foil in some parts near the hole, and

thus the intensity of the reflection was diminished. If concave glasses are applied before the eye to be examined, the vessels in the healthy eye may be readily distinguished, although diminished, still more defined. The distance at which Klaunig's mirror has to be applied, generally depends upon the extent of the hole in the mirror and the extent of the pupil. In order to illuminate the eye it is necessary to throw some concentrated rays of light, emanating from the centre of the mirror, around the hole; the shadow, therefore, of the hole, together with some concentrated rays of light, must be thrown into the interior of the eye; consequently, the more dilated the pupil is, and the smaller the hole in the mirror, the nearer may the mirror be brought to the eye; whereas, the larger the opening in the mirror, and the smaller the pupil, the more will it be necessary to remove the mirror from the eye, and the more will the mirror exert a dazzling influence upon the patient. If you bring the mirror too close you will be misled, especially if you look at the eye by a wax-candle, to mistake one of the images of the flame, if bright and almost appearing white, for the entrance of the optic nerve if brought in a certain direction; on the other hand, you must be careful not to consider the depicted mirror in the eye to be the appearance of the nerve.

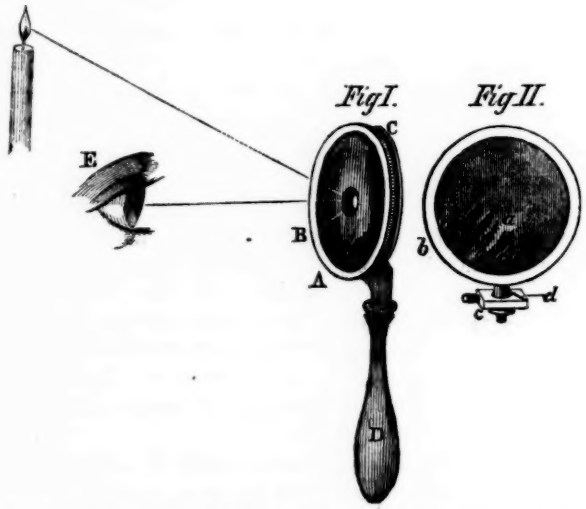

Fig. I.—A, a biconvex lens; B, the hole; C, the frame; D, the handle; E, the patient's eye.

Fig. II.—*a*, the plane mirror; *b*, the frame; *c*, the horizontal piece to be fixed to the first mirror; *d*, indicating the line to turn the mirror in an angle of forty-five degrees.

Klaunig has devised an improvement on his speculum, which consists in a second mirror, to be brought as near as possible to the first, in such a direction that a line drawn from the retina through the hole of the mirror should meet the centre of the second mirror, which is placed vertically to this line, but in its horizontal direction, at an angle of forty-five degrees. Instead of the observer, the second plane mirror receives the image, which can be seen readily without any exertion. A magnifying or diminishing glass will reproduce the image accordingly, if applied instead of the second plane mirror.

Klaunig used a stronger convex glass, of eight inches focus, for this purpose, as he preferred observing closely under the influence of a stronger light. He asserts that by this means draughtsmen and those less accustomed to similar examinations, are enabled to see clearly the images. In examining myopic eyes, the refraction of their media has to be corrected by the application of a presbyopic glass, in order that the image on the retina should appear clearly defined.

The examination of the eye requires a good deal of patience and endurance, but if practised for some time, the surgeon acquires a certain ability in it, and considers it less difficult. However, great caution is required in the use of all eye specula. Nothing is more injurious than protracted examinations of the eye, for both ophthalmic surgeon and patient. The latter may, in consequence of the examination, if often repeated and protracted, acquire an additional injury from the over-exertion from the reflected strong light on the retina. Nothing is more calculated to weaken the sight and produce amblyopic and amaurotic symptoms than similar experiments and examinations, if injudiciously made.

Varieties of Cataract.

Black cataract is a rare occurrence; it is the hardest of the lenticular cataracts; when dropped into a glass the same resounds. It is apt to be confounded with amaurosis, but may be readily distinguished from the latter by the activity of the pupil, which is absent in amaurosis, or modified, being very sluggish in its movements, if there exist any at all. Further, the examination by the speculum will show the opacity of the lens in black cataract, and transparency of the same in amaurosis.

Frequently, the lens becomes lessened in volume by a natural process of absorption; the more it shrinks the more the capsule contracts upon it and shrivels up. The capsule thus shrunk, thickened, and corrugated, may contain a diminished lens (cataracta arida siliquata). The lens may be absorbed in consequence of an injury inflicted upon the eye (traumatic cataract), or a needle operation performed on it: a membranous or capsular cataract may remain, which, according to its density, may present a scarcely

discernible film, or appear chalky or milky; ordinarily it is unequal in its extent. The opaque membrane, consisting of the two parts of the capsule closely situated, may be connected with the ciliary body, or more or less separated from it. If entirely separated from the ciliary body, it may oscillate backwards and forwards during the movements of the eye (shaking cataract), or float behind the iris (floating cataract), or even pass into the anterior chamber. A calcareous or bony transformation of the capsule and the lens may take place. Desmarres, of Paris, and White Cooper, of London, and others, observed similar ones.

Secondary cataracts are formed in consequence of needle operations, and may be lenticular, capsular, or capsulo-lenticular.

Spurious cataracts are formed as products of previous or existing inflammation of the iris, choroidea, ciliary body, retina, or capsule, and may be

(*a*) Fibrinous.
(*b*) Purulent.
(*c*) Sanguineous.
(*d*) Pigmentous (uvean).

(*a*) The *fibrinous cataract* is the result of an inflammation of the iris and the capsule, and is deposited in the latter in the pupil, sometimes pushing forwards into the anterior chamber more or less connected with the iris. It presents a white spot, mixed with yellowish points or tubercles.

(*b*) The *purulent cataract* is formed by a collection of organized pus in the pupil, where a thick, unequal, wrinkled mass is visible, connected entirely with the pupil, which is immovable. The iris is discolored, and often shows marks of a previous chronic inflammation. At the same time, an organized hypopion is met with in the anterior chamber. Vision is entirely gone, and little hope remains for its restoration.

(*c*) *Sanguineous cataract* developes itself in consequence of wounds inflicted upon the eye, or in consequence of spontaneous ruptures of the vessels (apoplexy) in the eye. The anterior chamber, or only the pupil, is filled up with a dark brown, almost black mass, which shows *gray* prominences in some of its parts.

(*d*) *Pigmentous* (*uvéenne*) *cataract* * presents a dark brown or black opacity, which is formed by the uvean pigment deposited in the pupil on the fibro-albuminous product, which covers the capsule, partially or in its whole extent. The pigmentous cataract adheres sometimes to the iris in one or more points. Sometimes it is formed only in the centre of the cap-

* Desmarres.

sule, and is not connected with the iris, which then retains its natural movements. This form of spurious cataract is produced by a traumatic inflammation of the eye, chiefly if iritis is associated with it; when the inflammation may extend from the iris to the capsule, or it may be caused by an inflammation spreading from the capsule to the iris. The following circumstances contribute much to the formation of a spurious uvean cataract and its being situated in the pupil. In internal inflammation of the eye, chiefly iritis, the vessels of the iris are gorged with blood, the iris develops itself in thickness from forwards backwards, and in its superficial extent; the parenchyma of the iris thus enlarged, causes a diminution of the pupil (which lasts as long as the anomalous state of the iris exists), and approaches the capsule, which underwent the same changes as the iris; and thus tends to meet, as it were, the iris. The greater the vascularity and inflammation of both, the easier is the adhesion effected. Besides, the form of the posterior chamber being such as to permit a nearer approaching of the centre of the iris than of its periphery to the capsule, it is evident that it facilitates the formation of an adhesion. The pigment or uvea is developed on a larger surface in consequence of the extension of the parenchyma of the iris. If the secreted organizable lymph is deposited in abundance, and the internal inflammation lasts a long time, the adhesion between the iris and capsule will be a permanent one, thus producing a synechia posterior. But if, on the contrary, the fibro-albuminous deposit is formed in a small quantity and becomes slowly organized, and at the same time the turgescence of the vessels disappears with the inflammation of the iris, the latter will tend to resume its natural movements, by retracting towards the ciliary margin. It will result in this struggle with this badly-organized new formation, that the false membrane will give way by degrees, and will thus give rise to the formation of longer or shorter fibro-albuminous threads, covered on their anterior surface with pigment, connected in front with the iris and backwards with the capsule; or, in other instances, the false membrane being firmly connected with the capsule, will retain some parts of the uvea, the pigment which the iris lost in its tendency to resume its normal position and left on the capsule; and by withdrawing thus from the connection with the capsule, a pigmentous cataract will be formed, without connection with the iris.

Vision is more or less altered, according to the extent of the uvean deposit on the capsule and the obliteration of the pupil; the patient retains always the perceptibility of light and darkness.

Pigmentous cataract may be confounded with black cataract and amaurosis, and may be distinguished by the following symptoms:—

Pigmentous (uvean) cataract.	*Black cataract.*	*Amaurosis.*
The *pupil* is immovable in the complete pig. cat.; is adherent, and presents a more or less irregular form. By application of atropine, it may *not* dilate at all, or do so irregularly.	The *pupil* is movable, as in the normal state.	The *pupil* is round or elliptic, and not attached to the capsule by black threads, thus producing a more or less anomalous form of the pupil.
The *color* of the pupil is seldom perfectly black; the color of the uvean pigment is unequally dark-brown, and mixed with blackish threads formed by the false membrane covered by the pigment.	The *color* of the pupil is seldom perfectly black; the lenticular opacity is black—duller in the centre than in the periphery.	The black color of the pupil is formed, as in the normal state, by the back ground of the globe behind, and not in the pupil.
Internal inflammation of the eye always precedes or coëxists.	No previous inflammation of the internal structure of the eye.	Inflammation of the eye mostly absent; often, it may have existed, or be present.
No shadow of the iris, if adhesion exists with the capsule to a greater extent.	A shadow of the iris is visible on the capsule.	
By examination with eye speculum, opacities are observable in front of the lens.	Opacity in the lens.	No opacity in the lens or capsule. The red color of the choroidea mostly equally diffused, deposits on the chor, or retina sometimes visible.

Adhesions of the pupil are produced in consequence of internal inflammations of the eye. Change of color in the iris is usually noticeable. Change of the structure of the retina, and loss of sight, may be caused by the same inflammation. The presence of such an adhesion (synechia), demands always some consideration in the choice of the operation.

Maturity.—If a cataract has been forming for a long time, without an altered state of the other transparent media and textures of the eye, it is not absolutely necessary to await the complete change or maturity of the cataract. If, however, the cataract is the result of a still-existing inflammation or congestion in the eye, it is not advisable to operate upon it, but it is preferable to wait till the change has been completed.

Complications may exist, as purely local ones, as alterations of the structure of the iris, choroidea, retina, vitreous humor; or general ones—the constitution being in a depressed state, or an unhealthy condition of some nature may exist in one of the principal organs. Similar complications have to be regarded and consulted in the choice of an operation, as well as of the time.

Treatment.—As long as the eye may be rendered serviceable, be it by application of atropine or by the use of an eye-glass, the ophthalmic sur-

geon is not justified in performing an operation for cataract on it. I recollect two cases under my treatment while attached to the German Hospital in London, in both of whom a partial opacity of the capsule demanded the instillation of atropine, which produced sight available for ordinary purposes. The one was a German seamstress, about twenty-five years of age, with circumscribed central opacities in both capsules. The other was a refugee, about forty years of age, with a central opacity in the left lens. Vision of the right eye was entirely gone—its textures disorganized. Both used the atropine for about ten and fifteen months, and continued in its use about twelve months ago, when I last saw them.

If we except the traumatic cataract, which, together with some of the spurious cataracts, is often amenable to medical treatment, we generally must have recourse to a surgical treatment in order to remove a cataract.

Although many ancient and modern ophthalmic surgeons pretend to have removed spontaneous idiopathic cataracts of the lens, by applications of ammonia, veratria, etc. to the temples or top of the head, I very much doubt this being a fact. The mistake may have been in the formation of the diagnosis, if not in the assertion of the truth.

The formation of the true idiopathic cataract can neither be arrested in its development nor removed by a medical treatment. Rupture of the capsule, be it produced by a fall or shock, may expose the lens to the action of the aqueous humor, and thus the lens may become absorbed without a surgical treatment.

In young individuals, the operation for cataract may be performed in one eye while the other is sound. In older individuals, it is not advisable to expose the sound, at least yet serviceable eye, to a sympathetic risk, by operating on the affected eye—the use of the available one being sometimes sufficient for the remainder of life. If, however, the second becomes gradually worse, it is useless to await the complete formation of the cataract. Cataract in one eye often gives rise to the formation of strabismus, which, if of long standing, aggravates the beneficial result of the operation. This may be considered as an additional reason for operating in young individuals when one eye is affected with cataract.

With the exception of very hot weather, almost every season of the year may be chosen for the operation. I saw operations performed with equal success in different countries (Hungary, Germany, France, and England) in various seasons; but it is not advisable to procrastinate an operation for such a month as is generally known to be a very changeable one in weather, which is more or less peculiar to every country.

In congenital cataract it is advisable to operate in six weeks or two months after birth, in order to allow time if necessary for repetition before teething begins, and then to prevent a continual oscillation of the globes,

which often follows if light is shut out long from the retina. I saw Bowman operating in several instances. His remarks were to the effect that, however free you may move the needle for breaking up the cataract the subsequent inflammation is very small.

Operation on both eyes on the same day.

Jaeger, Rosas, Fabini, Roux, Guthrie, Sichel, and Desmarres, I saw operating for cataract on both eyes, on one and the same day; whereas Desmours, Dupuytren, Travers, and others, await the recovery of the operated eye before they operate on the other. The reasons for operating on both eyes on the same day are,

I. That the surgeon has to expose the patient twice to the inconveniences and accidents during the treatment, if he operates at different times, as to bleeding, vomiting (after incision), etc.;

II. That in operating on both eyes, the patient has more chance of recovering the sight, at least in one eye;

III. If the one eye is operated upon much sooner than the other, the former will, after recovery, gain a much greater relative power of accommodating the sight,* and the last one operated on is more apt to be neglected, which may produce unequal vision;

IV. In case the result of the operation is not attended with success, the patient will less willingly and perhaps not at all submit to a second trial; whereas he will be glad to submit to a second operation if he regains the sight in the operated one.

For these reasons, I decide also on operating, on this boy, on one and the same day.

However, there are instances where it is imperative not to operate on both eyes on the same day; if, for instance, two modes of operating have to be chosen in both eyes, where the peculiar symptoms consequent upon one mode would interfere with the treatment to be selected for the other, and thus endanger the result of the operation. Those who advocate the performance of the operation at different times, assert that the risk of inflammation is greater, and often settles to a greater extent in one of the eyes, and that accidents are generally of a more serious nature.

Preparation of the Patient.

A good state of health is required in patients to be operated upon for cataract. Although it is superfluous, sometimes even a disadvantage, to alter the diet the patient has been accustomed to, still it is necessary that

* Which may depend on the various combined actions of the ocular muscles, thus possibly altering the antero-posterior, horizontal, etc., diameters.

the patient should abstain a few days, previous to the operation, from fermented liquors, and sometimes from animal food too. The bowels should be evacuated the day previous, or on the same morning; but the natural functions of the stomach and bowels must not be disturbed by unnecessary purging. In plethoric individuals, general bleeding may be necessary; whereas, a state of depression or debility may induce to a corresponding previous treatment. As a general rule, it may be considered best not to operate upon a patient with a cough; nor should the ophthalmic surgeon do so on a patient with a foul tongue, or where a specific inflammation, be it a gouty, strumous or syphilitic one, is present in the eye; or if the same was recently the seat of an inflammation from whatever cause. A long interval of time should be allowed to pass before an operation is attempted in an eye thus morbidly altered. Attention has to be paid to the secretions and excretions. The urine has to be examined, whether or not deposits of uric acid and urate of ammonia are in abundance, which may be considered as symptoms of dyspepsia or fever; the presence of phosphate of lime or ammonio magnesia phosphate will denote excessive prostration, or nervous depression; and, in short, a consideration must be had of all the functions of the animal economy upon which health depends.

Advanced age is no impediment for operating; the best results follow operations performed on individuals above 90 years of age.

Operations.

Extraction, Depression, and Solution or Division, are the three established general modes of operating for cataract.

Extraction consists in making an incision through the cornea, lacerating the capsule, and forcing the lens through the pupil and opening made in the cornea.

This mode of operating is applicable for *hard*, *half-hard* and *half-soft* cataracts.

To perform it, it is necessary that within reach of the surgeon should lay two or three sharp cataract knives (Wenzel's, Beer's, Jaeger's, or Guthrie's), one or two fine probe-pointed bistouries, a pair of Maunoir's scissors, curette hook, sponge, warm water, cambric rag and bandage. The room should be provided with means for darkening it.

The patient may be seated in a lower chair without a back, the surgeon opposite in a higher chair,* while an assistant standing behind the patient, fixes (with the index and middle finger of one† hand) the upper lid to the ciliary ridge, and holds the other under the patient's chin, thus gently press-

* Jaeger, Rosas, Arlt, Sichel, Desmarres.

† The left for the right eye, and right for the left eye.

ing the patient's head to his chest. The surgeon depresses with the index and middle finger of one hand* the lower lid, and fixes the globe by pressing it, and holds the instrument in the other.

The light must be allowed to fall obliquely upon the patient's eye.

Or the patient is seated in an arm chair,† and leans his head backwards, the operator stands in front or behind the patient; or the patient lays comfortably on a couch, and the surgeon is seated behind the patient, and rests his elbow on the head of the couch.‡

Suppose the patient to be seated in a chair without a back, and the operation for extraction has to be performed on the left eye§; the surgeon holding the knife in his right hand, between the thumb and the first three fingers, fixes his little finger on the malar bone, and proceeds to incise the cornea, after having touched the cornea with the flat surface of the knife, to steady the eye.

The incision may be made in three different points of the cornea; or it may be pierced about its middle, close to the junction with the sclerotica at its outer side, and a semicircular flap of the cornea may be formed parallel with its margin (superior section), or the flap may be formed on its lower half (inferior section), or on its lower and outer side (exterior and inferior section).

I prefer the superior section: if this be adopted, the cornea has to be pierced with Beer's, Wenzel's, or Jaeger's cataract knife, directly (and not obliquely) close to its junction with the sclerotica, about the middle of the cornea, at its temporal side, the knife, with its cutting edge turned upwards and the flat part parallel to the iris, has to be pushed rapidly, but steadily, across the anterior chamber; the cornea then is punctured again on the opposite (nasal) side as near as possible to its junction with the sclerotica; the knife is now carried upwards very slowly,‖ parallel with the circle formed by the junction of the iris and sclerotica, and thus the semi-circular flap is completed. The aqueous humor escapes when the section is completed. The upper lid must now be dropped, and the eye allowed to rest for a few moments; when the lid should be raised again. The iris will be found to bulge forward together with the cataract against the concavity of the cornea.

* The left hand for the right eye, and right for the left eye.

† Guthrie.

‡ Bowman, Dixon, and others.

§ The pupil is to be dilated by atropine: although it contracts quickly when the anterior chamber is opened, still the iris is less in the way of the knife while it is pushed across the chamber.

‖ If the knife is carried quickly, an irregular, mostly triangular flap is formed, often too small to allow the lens to escape.

The second part of the operation consists in introducing the curette, or kystotome, under the corneal flap; the concavity of the curette must be turned downwards, until the point is opposite the pupil, when the point is turned inwards and sunk through the capsule, which is divided by drawing the instrument across it in different directions: then the instrument must be withdrawn in the manner it was introduced.* Sometimes the capsule lacerates spontaneously, in consequence of the spasmodic action of the ocular muscles, or inadvertent pressure on the eye. In such instances the use of the curette is unnecessary.

The third part of the operation, removal of the lens, is effected by directing the patient to open the eye, when a gentle pressure is made by the blunt end of the curette upon the upper lid, and a counter-pressure on the lower with the finger's end, until the lens is dislodged, and its edge rises in the pupil. The lens thus distending the pupil, passes through it, raises up the corneal flap, and escapes from the eye. The upper lid is then brought over the eye and closed, in order to prevent the escape of the vitreous humor. After a few moments, the eye must be opened, to ascertain that the pupil is round and clear, and the corneal flap in its proper place.

After the operation thus finished, the room must be darkened, the eye kept closed and covered with a piece of linen, which should be secured by a fillet around the head. The patient may now retire, or await his usual hour for retiring, but should be seated comfortably in an arm chair.

The lower section is performed by turning the cutting edge of the knife downwards, thus forming a lower semi-circular flap; the outer flap by directing the knife downwards and outwards.

Guthrie devised a plan of operating without assistants, by fixing the lids and the globe with the fore and middle fingers of one hand, and using the knife with the other.

In the progress of the operation several casualties may occur, which may require the immediate attention of the ophthalmic surgeon. The iris may fall in the way of the knife in consequence of a premature escape of the aqueous humor, produced by undue pressure on the globe: a small bit of the iris,† especially of the pupillary margin, in contact with the edge of the knife should not be regarded, the operation ought to be completed. If a second pupil be made, the isthmus should at once be divided by the blunt-pointed scissors. If, however, a considerable portion of the iris should be in

* In the guarded curette is a sharp limb, more fitted for use than the ordinary one; the point is concealed by a little guard, so that the instrument is dull when closed; its introduction to the required spot is safe and easy; it may be opened by pressure on the trigger in the handle, and allowed to close when the pressure ceases.

† Walton.

the way of the knife, the instrument should be withdrawn; if the cornea be nearly divided, the section may be completed by introducing a secondary knife. The iris may bleed or not, this circumstance need not cause anxiety. Should the aqueous humor escape before the counter-puncture is made, the knife must be withdrawn, and the operation delayed. Imperfect counter-puncture may cause a smaller flap; the secondary knife has to be used to obviate the necessity of squeezing out the cataract, which attempt would be useless and fatal to the eye, as the vitreous humor is apt to rush out. If the vitreous humor escapes with the lens, in small quantity, no particularly bad result must be anticipated; but if the quantity be a large one, the globe collapses, and no hopes remain for the restoration of sight. The capsule may be imperfectly ruptured, and thus the free exit of the lens prevented: the introduction of the curette will be necessary to enlarge the aperture of the capsule. Hard fragments of the lens fallen in the anterior chamber, must be removed by the spoon of the curette. Many other accidents, too numerous to be mentioned now, may happen and require your immediate consideration.

After the operation, the eye must not be subjected to unnecessary examination, in order that the cornea may reunite, which takes place, generally, in from twenty-four to forty-eight hours. The surgeon must pay attention to the state of the lids during this time, and dry the lids with a sponge if any discharge exists, but should not open the eye. After three days, the surgeon may depress the lower lid and the patient raise gently his upper lid. The anterior chamber should appear filled with aqueous humor, which is a proof of reünion of the corneal flap. If neither the conjunctiva appear injected, nor the iris inflamed, the pupil be black, and the patient free from pain, the prognosis may be considered a favorable one.

The diet, which, till the fourth day, was a bland and unstimulating one, of a farinaceous kind, may now be a more supporting one; if the patient be much enfeebled or aged, beef-tea with sopped bread, may be allowed from the beginning; and solid nutriment, reduced to a pulp, may be allowed from the fifth or sixth day.

At that time, the patient may be allowed to open the eye in a subdued light, in order to test the result of the operation; he may change the bed for the arm chair, and, after a few days, walk about in the room, which should be kept ventilated, and a degree of light should be admitted that enables the patient to walk about. Sometimes the cornea unites rapidly, and the patient may recover the sight after the shortest time. The admission of light should be regulated carefully; for some weeks after the operation, the shade should be worn. Exercise should be allowed to the patient as soon as circumstances will admit it.

In a week or ten days after operation, the eye may be opened in a weak

light, and may be used more freely as it becomes stronger. The patient should be suited with eye-glasses in about a month or six weeks. By the loss of the lens, the refractive power of the eye is diminished; its place must be supplied by convex glasses. The patient should select glasses with which he can see best. Two pairs of spectacles will be necessary for him; one for ordinary vision, four inches focus, the other for reading, writing, and for other purposes requiring near sight, of two and a half inches focus, as the latter must be stronger. The patient must use them very cautiously; some weeks should elapse before he uses them freely. The result of the operation may sometimes be a less favorable one.

The most common cause of failure is acute inflammation, which usually occurs during the first twenty-four hours. Acute pain is felt in the eye-ball, then in and around the orbit; the lids swell, inflame, and are covered with purulent discharge on the border; it may terminate with thickening of the capsule of the lens, with adhesion of its divided parts, or adhesion to the iris.

Subacute inflammation is still more frequently the cause of an unsuccessful result of this operation for cataract. The subacute inflammation appears later than the acute one. It comes on a few days after the operation. The lids are of a darkish hue, and infiltrated with serum (chiefly the upper eyelid); the conjunctiva of the eye-ball is elevated by serous effusion, and presents a dull red color. Elderly persons being mostly subject to this kind of operation, are, for the same reason, liable to this asthenic form of inflammation. More generous diet and stimulant draughts may be allowed, to invigorate the constitution and thus remedy this affection.

Contra-indications to this form of operating, are, from obvious reasons, a sunken eye, a small anterior chamber, extensive adhesions of the pupil.

The white ring around the cornea (arcus senilis), which, as discovered by my friend, Mr. Canton, is a fatty change of the corneal structure, is no impediment to the extraction, if it is small. A larger arcus may heal more difficultly, as Beer asserts.

Depression or couching.—The patient having been prepared, as for the previous operation, his pupil dilated by atropine,* he is placed in a low chair, while the surgeon is sitting opposite, in a higher one. The assistant fixes the upper lid, the surgeon the lower lid, and steadies the eye with one hand, using the needle with the other. After having touched the eye with the needle once or twice to steady it, the surgeon pierces with a spear-shaped or Scarpa's-needle the conjunctiva, sclerotic, choroid, retina, and hyaloid membrane at a distance of a line and a half or two lines behind the margin of

* ℞. Aquæ dist., ℈iv.; Sulph. atropii. neut, gr. i.; Mucilag. sem. cyd., ʒ i. M.

the cornea, nearly, but not exactly, in the middle of the eye, a little *above* its middle, as the long ciliary artery runs on each side along the middle of the eye. The needle is to be introduced on the temporal side of the globe, and its concavity placed on the convexity of the lens, after having been carried forwards and upwards. The needle must now be steadily pressed upon the cataract, so as to move it downwards and backwards out of the axis of the vision, where the needle is kept on it for a few seconds until the vitreous humor may settle over it; and then the needle is gently rotated to disengage it, and lifted up a little to see if the lens rises, when the depression is repeated; or, if it does not rise, the needle is withdrawn.

Reclination (réclinaison) is a modification of this mode of operating, and is effected by tilting the cataract backwards, and carrying the upper edge downwards. Hard and half-hard cataracts are best suited for this operation.

The immediate effect of depression, or reclination, is striking: the opacity in the pupil disappears at once, the globe resumes its natural appearance, and vision is restored. But there are grave objections to this mode of operating, which is justly considered by many ophthalmic surgeons a less scientific one.

The after treatment consists in keeping the patient quiet, his head being elevated, the eye shaded, his diet low for a few days. Under no circumstances should the eye be suited with glasses before the lapse of some weeks. Iritis, choroiditis, retinitis, may ensue, and must be treated accordingly.

Division, solution, or absorption, is applicable in soft and fluid cataracts. It consists in dividing the capsule, in order to admit the aqueous humor to the lens, which is effected by puncturing the cornea or sclerotic; hence the two modifications, the anterior (keratonyxis) and posterior (scleronyxis). The latter I propose to perform on this boy. The anterior operation consists in introducing a curved or straight needle through the cornea, and lacerating the capsule of the lens.

Dr. Jacobs' needle is particularly adapted for the anterior operation, which is performed by placing the patient in the usual position, and introducing the point of the needle near the margin of the cornea, or even in the centre of the cornea, as no opacity from the wound has to be anticipated. When the point of the needle is once fastened in the cornea, no action of the muscles can disengage it, and the surgeon has perfect command of the eye. The operator now pushes the needle through the cornea, to bring it in contact with the lens; and that moment the eye is apt to roll inwards so much that the pupil is hid, and the surgeon must rely upon his knowledge of the direction the needle has taken, in order to bring it to the lens. The needle is then turned back, and the capsule gently torn open by its point; then, after pricking and scratching the surface of the lens with a rotating motion of the instrument, it is withdrawn in such a manner

as not to wound the iris. If the lens is a soft and friable one, its fragments fall like snow into the anterior chamber, the operator may push the needle free into the lens, and twisting it round, mash it into a pulp.

If the cataract be a hard one, the capsule should be opened thus to admit the aqueous humor, for softening it and rendering it fit for being broken up on another occasion.

In the posterior operation, the straight needle with cutting edges must be introduced at about a line from the circumference of the cornea, through the conjunctiva, sclerotica, choroid, retina, and hyaloidea; its point should be brought forwards between the iris and the lens; the cutting edges, till now turned upwards and downwards, must be turned backwards and forwards; the crystalline lens, with its capsule, is to be thus divided by two or three gentle strokes.

The solution or absorption of the lens is accomplished more quickly in the anterior than in the posterior chamber; the fragments, however, of an opaque lens, acting as foreign bodies, being apt to produce considerable irritation and inflammation, during which resorption is suspended: caution is necessary in displacing the fragments, which if hard may, although small in size, produce great irritation, and demand immediate removal by a section of the cornea.

Sometimes a peculiar symptom follows in a few hours, generally in the night, after the operation has been performed. The patient is seized by nausea and vomiting. It is advisable to warn the patient that such may be the case. It lasts a few hours, or in some instances even a few days. Effervescing draughts, full opiates, mustard cataplasm to the stomach, and strict quiet, relieve it generally.

This symptom is, as Dalrymple observed, dependent on the poisonous presence of the contents of the capsule; for if such a cataract be removed by extraction, no such state follows. According to this view, Dixon recommends opening of the cornea, for the removal of the fluid, before pain and nausea comes on. Great relief is afforded by this means; and vomiting does not follow, as I observed in several instances, even if the patient be troubled by nausea for a short time.

The time which is required for the absorption of the lens, depends upon the circumstances connected with the nature of the cataract, and upon other individual peculiarities. In some persons the process of absorption will be a quicker, in others a slower one, although in both apparently the same circumstances may exist.

In some instances, a single operation will be sufficient; in others, a repetition of it will be necessary in order to hasten the absorption.

Some surgeons think it sufficient to repeat the operation after six or eight weeks, if there is no evidence of the resorption going on, as flattening of

the capsule and concavity of the iris. Others prefer repeating it every three or four weeks, until complete solution and absorption has taken place. Of course, as long as inflammation exists in the eye, no repetition of the operation should be had recourse to.

Operation for capsular cataract. Secondary cataracts.

The capsule often remains, when the lens has been resorbed, in an opaque condition, occupying more or less the pupil; thus impairing proportionately vision. Sometimes it is thin, semi-transparent, and easier lacerable; sometimes thickened, and corrugated, tough and strong. The former may be removed through the cornea, by the canula forceps; the latter, if unattached to the iris, by the larger forceps, through the cornea or sclerotica. If the capsule or a false membrane is attached to the iris firmly, greater difficulty is experienced in removing it. The pupil may be cleared by the canula scissors, which are introduced through the cornea near its circumference.

These new improvements, beautifully executed by Luer, of Paris, afford the advantage of inflicting smaller wounds in the eye. Needles for eye operations are generally made too large in size. I am inclined to believe that the success of an operation much depends upon the choice of such instruments as inflict the smallest wounds.

Two cases of Poisoning by Prussic Acid. By DAVID UHL, M. D.

Hydrocyanic acid is a product peculiar to the organized kingdom, and it may be readily procured from many vegetables. Of these, the chief are the *bitter almond*, the *cherry laurel*, the *peach blossom*, the *cluster cherry*, and the *mountain ash*. The acid is met with under two forms: as pure acid, and diluted with water. The pure acid is limpid and colorless, has an acrid and pungent taste and a peculiar odor, bearing some resemblance to bitter almonds. At ordinary temperatures it decomposes spontaneously within a few hours. The pure acid is not likely to come under notice in medico-legal cases, as it is not generally met with out of the chemical laboratory; it is in the form of the dilute acid used for medicinal purposes, and as kept in the apothecary's shop, that it is commonly used as a poison. It is now generally made by the decomposition of a solution of ferrocyanide of potassium by sulphuric acid, and has the same appearance, smell, and taste, as the strong acid. The quantity of strong acid contained in the dilute acid employed in medicine, differs with the mode of preparation, and the tendency which it also has to decomposition. The prussic acid of the Lon-

don Pharmacopœia contains about 3 per cent.; that of Vauquelin, 3.3 per cent.; and that of Scheele, about 5 per cent. The strength of the dilute acid employed in other countries varies from 1 to 50 per cent. Scheele's acid is most generally kept in the druggist shops in this city, but even this has been found to vary greatly in strength.

This substance is one of the most energetic and formidable of poisons; and the promptitude with which it acts when taken, even in small doses, strongly recommends it to the suicide and the murderer. "In the years 1837–8, twenty-seven cases of poisoning by prussic acid were brought under the notice of the coroner's court in London, of which eight occurred in members of the medical profession and druggists. They were all cases of suicide."

"Two cases of poisoning by essential oil of almonds also occurred in those years, and one of poisoning by prussic acid mixed with arsenic."

Six cases of suicidal poisoning by prussic acid occurred in this city during the past year, in two of which I was called upon by the coroner to make postmortem examinations.

From the difficulty of obtaining the acid, in this city, without a prescription from a physician, cases of poisoning by this drug are of comparatively rare occurrence; and as one of the cases which came under my observation is peculiar, from the large quantity taken and the suddenness of the death, *without convulsions*, I trust that their publication may prove interesting to the medical profession.

Case I.—Chas. G——, born in Germany, a druggist, aged 26 years, was seen to take an ounce of Scheele's acid from a bottle, after which he walked a distance of about twenty feet, fell upon the floor, and died instantly. A postmortem examination was made, six hours after death. The body was quite pale, lips blue, mouth open, limbs very flexible; and there was a glistening and staring expression of the eyes. The brain was healthy, but its vessels were loaded with dark fluid blood, and the lateral ventricles were filled with a sanguineous liquor. It also emitted a strong odor of prussic acid. On opening the chest, the lungs were found collapsed and of a bluish color, but were healthy in structure. The heart was healthy, but the right ventricle was filled with fluid blood. The blood appeared to be nearly all collected in the veins, while the arteries were empty. The stomach contained about four ounces of light, clear colored fluid, which emitted a strong odor of prussic acid. The mucous coat of the stomach and intestines was of a bright red color, but otherwise in a healthy condition. The liver, spleen, and kidneys, were loaded with fluid blood of a bluish color. The bladder and pancreas were both healthy, and natural in color. The odor of prussic acid emitted from the body was so strong as to produce a

sense of suffocation, with dizziness, which compelled me to suspend the examination for over half an hour.

Case II.—G. F. G. aged 34, born in Germany, took a room at the Eagle Hotel on the evening of July 7th, 1853. About 12 o'clock the next morning, he was found dead in his bed. The bed stood near the window, which was open, but there was nothing found in the room which could have contained the poison. A number of letters were discovered, which proved that for some time previous he had premeditated committing suicide.

A postmortem examination was made, forty-eight hours after death. The brain was but slightly congested, but much softened, and the lateral ventricles were filled with serum. It did not emit any odor of prussic acid. The body was pale, lips blue, limbs flexible, eyes glassy, and pupils contracted. On opening the chest a strong odor of prussic acid was emitted, which was perceived by several persons who were present. The lungs were collapsed, but in a healthy condition. The heart was healthy, and the right and left cavities filled with dark, clotted blood. The stomach contained about an ounce of light colored fluid, which had a strong odor of prussic acid. The mucous membrane was somewhat reddened, but this appearance was not found in the intestines, which were perfectly healthy. The liver, spleen, and kidneys were healthy, but slightly gorged with dark colored blood. The other organs of the body were in a healthy condition. A great variety of morbid appearances are described by different authors as being peculiar to cases of poisoning by prussic acid. The limbs are frequently ridged, and the head, face, and lips, of a violet color. The glistening and staring appearance of the eyes is not a constant phenomenon, and the lungs are also frequently congested. Many of these appearances are, no doubt, due to the convulsions and other symptoms caused by the poison, and not to the immediate action of the poison itself. The postmortem appearances probably depend, in a great degree, upon the quantity of acid taken, the time which elapses before death takes place, and the occurrence or non-occurrence of convulsions.

It is not the object of this paper to enter upon a discussion regarding the morbid appearance in cases of death from prussic acid; but should opportunity be offered me for future investigation, I shall endeavor to furnish farther information on this highly important and interesting subject.

5 *Bond Street.*

Poisonous effects of Soda Water from Copper Fountains and Lead Pipes. By R. Ogden Doremus, M. D.

Having, within a few days, had several friends relate their sudden illness after taking a single glass of soda water, and suspecting some poisonous impregnation to be the cause, I was induced to obtain several gallons of this favorite beverage, from different parts of the city, and to submit them to a chemical examination.

The substance which first attracted attention was *copper*.

This was very abundant in soda water obtained from several obscure shops, where it was presumed the traffic was limited, and consequently the acid water remained longer in the copper condensers. It was so evident that, on boiling off the excess of carbonic acid gas, a green scum made its appearance, which, on further evaporation, settled. This was carbonate of copper, previously held in solution by the carbonic acid.

The amount of metallic copper in a quart was one grain and a half!

Soda water obtained from the same establishment on different days, was found to contain varying amounts of the poisonous carbonate.

The source of this copper, and the cause of these differences, may be accounted for in several ways.

The copper condensers purport to be tinned internally; but where they have been in use a long time, the tin, by chemical and mechanical action, has been removed, at least in part; thus exposing a surface of copper to the corrosive action of the carbonic acid, aided by sulphuric acid, which is occasionally found in the soda water.

Although the carbonate of copper is insoluble in *pure* water, it is capable of being held in solution in water highly charged with carbonic acid gas; for the soda water which yields this green scum after discharging the gas, is clear and colorless previous to the operation.

The soda water drawn shortly after charging the condenser, would necessarily yield less copper on analysis, than that obtained from the same fount after having several days to exert its corrosive influence. Again, the tinning (for all are professedly thus lined) would be more perfect in some than in others—dependent not only on the length of time the condensers had been used, but also on the completeness of the original coating. I have been informed that, in order to facilitate the flow of the tin, soft solder is at times resorted to, or the copper is washed with a salt of mercury. Under these circumstances, the chemical and electrical action would be rather complicated, and the soda water possessed of remarkable *medicinal virtues*.

The second poisonous compound which, from its abundance, demanded investigation, was a white precipitate, the carbonate of lead. This was found, to a greater or less amount, in most of the waters examined.

In the quart whence the grain and a half of copper was obtained, 0.65 of a grain of metallic lead was found.

The chief source of this impregnation is the lead pipe used in many fountains to convey the carbonated water from the condensers to the jet.

It is an established fact, that the free carbonic acid found in spring waters, is capable of dissolving or facilitating the solution of many of the salts of lead, such as are found encrusting lead-pipes which have been used for conducting said waters.

By the investigations of Dr. Ellet, published in this city last year, it was clearly shown that even the trivial amount of carbonic acid found in Croton water, is sufficient to act upon the lead-pipes.

This lead may be readily found in any kettle which has been used for boiling the Croton water passed through a lead-pipe, by adding a little acetic acid to it. The acetate of lead will respond to sulphuretted hydrogen, by assuming a black tint (the sulphuret of lead), or a yellow tint with the iodide of potassium, etc.

Since carbonic acid is possessed of such solvent powers, soda water, which is surcharged with it, must become poisonously contaminated by contact with lead, either in the pipes or the soldering; and as much of the tin of commerce is alloyed with lead, even this metal, to which we look for protection, may be another source of evil.

Many are impressed with the belief that the first few glasses may be impregnated with lead to an injurious extent; and hence the custom, in the more respectable establishments, of discarding the soda water which is first drawn, and has lain in the tube over night.

Wherever lead pipes are used to conduct the water to the jet, and especially where, in order to secure a cool draught, from thirty to sixty feet of lead pipe are coiled in a tank and covered with ice, the highly acid liquid must necessarily dissolve the metal, and communicate the poison to all contained within the condenser.

These remarks are not applicable to pipes of pure tin, or of lead properly coated with tin.

I have examined the soda water obtained from a manufactory where it is bottled, but could discover neither copper nor lead.

The effervescent liquid which is at times "palmed off" upon the public, made by forcing atmospheric air into water (most truly, "aërated water"), would, from the very want of the carbonic acid, be nearly free from these contaminations.

It might be asked, "If these poisonous bodies exist in soda water, why are not the effects more commonly known?" I would reply, they are more generally known than is supposed.

Since commencing these investigations, I have learned from several medical friends, that a coppery taste, violent vomiting, colic pains, purging,

etc., have not been uncommon results from such draughts; and most with whom I have conversed, have experienced these effects personally.

In Dr. Mitchell's Therapeutics, mention is made that soda water from old copper fountains is strongly marked with the copper taste.

My assistant informs me that five years since, while in a drug store, he observed that vomiting and other symptoms of poisoning by copper followed frequently after drinking soda water, and that many thought it was cholera; and after being similarly affected himself, he tested the water and found copper.

I am informed by a resident of St. Louis, that while the cholera prevailed, most persons abandoned the use of soda water; it was a common remark, "Mr. —— took a glass of soda water, and was immediately attacked with cholera."

Probably the syrups which are the usual accompaniments of the soda draught, act in many cases as an antidote; for although the efficacy of sugar in this respect, as originally proposed by Duval, was denied by Orfila, it has lately been reässerted by Postel.

I regret that, for want of time, I have not been able to complete other experiments on this subject; yet, as I am convinced that in many cases this poisoned soda water has proved the exciting cause of cholera in those predisposed to this disease, and in others that it has by its inherent properties been injurious to health or destructive to life; and as at this time the cholera question is again agitating the public mind, I have thought it advisable to relate the results of this partial investigation.

With the knowledge of these facts, we may conclude that although soda water may be retained in a *well-tinned* copper condenser, and discharged through a *thoroughly tinned* lead pipe, without poisonous impregnation; yet, as any imperfection in the tinning of either, or long or careless usage, may expose the copper or the lead (or both) to the solvent powers of this carbonic acid, and thus render the beverage dangerous, therefore these vessels should be discarded or only permitted in the hands of trustworthy persons.

Condensers of stone, of iron, or of the purest block tin supported by iron bands, or of gutta percha, aided in a similar manner, would be free from poisonous impregnation. Conducting pipes of these latter materials are likewise unobjectionable.

In another paper I shall present the results of more extended investigations, and shall be indebted to any physicians or pharmaceutists who feel disposed to assist in this work of common interest, by favoring me with reports of cases, or samples of suspected liquid for analysis. If those engaged in the fabrication of this article would afford an opportunity of examining some of the old soda fountains, it might aid materially, and perhaps result in the suggestion of better methods of protection.

PART II.—REVIEWS AND BIBLIOGRAPHY.

On rheumatism, rheumatic gout, and sciatica; their pathology, symptoms, and treatment. By HENRY W. FULLER, M. D., CANTAB. Fellow of the Royal College of Physicians, London; Assistant Physician to St. George's Hospital, &c., &c. New York: Samuel S. and William Wood, 1854. pp. 322. *From the publishers.*

The remark with which Dr. Fuller commences this introduction to his work will be acknowledged to be true. It is, that "few diseases are more deserving of attention than that common, painful, and obstinate malady which has been recognized under the title of rheumatism." It does, indeed, seem strange that while it has been so long recognized, and occurs in all latitudes and countries, and in all circumstances in life; while it is more or less frequently met by all physicians, too often leaving as its consequent those lesions of the heart which render life a burden and hasten its end,—it seems strange that there is so little known, with certainty, of its pathology, and that there is so much discrepancy in the modes of treatment proposed by the most intelligent authors, and adopted by the most observing practitioners. It is for these reasons that we hail with especial pleasure Dr. Fuller's work, based as it is on his own investigation and study, not on the routine course of others.

As to the cause of the disease, our author thinks that it is not to be attributed to cold, either general or local, either alone or combined with moisture, but to a certain *materies morbi* in the blood; which, following Dr. Prout, he is inclined to believe to be lactic acid. Checked or deficient perspiration, exposure to cold or to malarious exhalations, indigestion and imperfect assimilation, defective or perverted uterine action, the ill performance of the renal functions, plethora, and debility, may each and all be, as has been alleged, the cause of the disease; but it is only through each of them producing in the blood this same morbific substance. They are the remote causes, this the immediate agent, in developing the phenomena of rheumatism. It is frankly admitted that "the poison which gives rise to rheumatism has not hitherto received actual demonstration;" but the reasons are assigned, which render it probable that it is lactic acid.

If this is admitted to be the poison which produces rheumatism, but one vehicle for its conveyance from one part of the body to another can be suggested, namely,—the blood. It is to this that our author attributes the phenomena of metastasis; not that the inflammation is removed from one place to another, but that the morbific matter elects, so to speak, now

one now another place for its deposit, of which inflammation is the result. But in order that the author's views may not be misunderstood, we quote his own synopsis of them.

"Thus it would appear that cold, and other external agencies, are only predisposing and exciting causes of rheumatism; and that the primary, proximate, or essential cause of the disease, is the presence of a morbid matter in the blood, generated in the system as the product of a peculiar form of mal-assimilation—of vicious metamorphic action. This poison it is which excites the fever, and produces all the pains and local inflammations which are often found associated in an attack of rheumatism. If the rheumatic virus be present in small quantity only, it may cause little more than wandering pains in the limbs, and may scarcely induce any perceptible fever; whilst, if it exist in larger quantities, it rarely fails to cause febrile disturbance, and to excite inflammation in various parts of the body. In that respect, however, its effects are found to vary, in different cases. Sometimes, though it cause great febrile excitement, its local agency may be confined to the production of external articular inflammation; at others it may fail to produce arthritis, but may give rise to acute inflammation of the heart; and at others, again, carditis may be one only out of several internal inflammations which it sets up coincidently with extensive articular mischief. Moreover, there appear good grounds for believing that, as in some cases, it gives rise to excessive febrile disturbance for days prior to the accession of articular inflammation, and repeatedly without exciting inflammation of the heart, so in certain instances it may excite the peculiar train of symptoms whereby rheumatic *fever* is characterized, without producing, from first to last, the slightest concurrent local inflammation, whether of the joints or of the heart, or any other organ." p. 37.

Our author not only admits that this disease is hereditary, but insists upon its being more frequently so than some other diseases of which this is considered to be a marked characteristic. Thus, the consumption hospital returns show that there was hereditary influence in a little more than twenty-four per cent. of the cases admitted to that institution, while thirteen per cent. of the cases of insanity are said to have this origin. Rheumatism gave, under the author's observation at St. George's Hospital, nearly twenty-nine per cent. as hereditary, out of two hundred and forty-six patients laboring under it; while M. Chomel, at the Hôtel Dieu, found this influence in half the cases in that institution.

As to the ages within which acute rheumatism occurs, our author places the ordinary limits at from fifteen to fifty. In one of his tables, however, he mentions a case in which it occurred at two years and nine months, while we have ourself known an instance in which acute rheumatism occurred in a man aged ninety years. Still, our author's limits are undoubtedly correct as a general statement. An hereditary origin, has, however, a much greater proportionate influence in the cases occurring under fifteen. Thus, one out of every 1.9 patients under this age gave evidence of heredi-

tary derivation of it; while of those over thirty, only one in 6.6 showed the same influence.

Concerning the seat of rheumatism, Dr. Fuller agrees with most pathologists, that its preference is for the white fibrous tissues; but the "conjectural cause" of this selection is worthy of note, as being at least an additional one to the many theories before advanced, though we confess we are not convinced of its truth:

"But it is worthy of note that the textures most commonly implicated in rheumatism, are all examples of the albuminous and gelatinous tissues, from the decomposition of which, in the wear and tear of the body, are formed those secondary organic compounds, the lithic and lactic acids, with which gout and rheumatism are intimately connected. And as it is but consistent with our knowledge respecting the processes of nutrition and assimilation, to suppose that each tissue selects from the blood and appropriates to itself, such matters as correspond with it in chemical constitution, we may readily conceive that some peculiar attraction may be exerted by the fibrous and fibro-serous textures for compounds, such as the lithic and lactic acids, to which they bear so strong an affinity." pp. 51, 52.

The author's division of the disease is into—1st. Acute rheumatism, or rheumatic fever. 2d. Rheumatic gout. 3d. Chronic rheumatism. 4th. Neuralgic rheumatism.

On these various divisions it is unnecessary to dwell, their basis being the same as that usually adopted. The duration of acute rheumatism is a question of very great interest, and one prolific of discussion. Dr. Fuller has taken, apparently, great pains to inform himself on this point; and for the result he finds that from four to five weeks is its duration, "under *ordinary* methods of treatment," when no internal affection accompanies it. He believes, however, that "the average duration of an uncomplicated attack may be reduced, by judicious treatment, from a month or five weeks to ten days or a fortnight." His plan of treatment becomes, therefore, of great interest; and we give it at some length, omitting, of necessity, the discussion of the various modes which have been suggested by others. It may seem almost incredible that a writer on rheumatism should not bring forward some new or old remedy as almost a specific for the disease. Our author, it will be seen, is in a good sense eclectic, using old remedies, but seeking a more discriminating mode of selecting from among them:—

"If the materies morbi be, indeed, an acid, or an acidulous compound—if it be lactic acid, for instance, as there are cogent reasons for believing it to be—then will its neutralization be effected, its irritative property probably diminished, and its elimination promoted by a free exhibition of alkalies and neutral salts; and these objects may be further advanced by the administration of purgatives, sudorifics, and diuretics, to act upon the various excretions. With the view of checking the further formation of the poison,

and of restoring that healthy state of assimilation, which, at the outset of the disease, is interrupted or arrested, colchicum, mercurials, and alteratives may be given, and, as the febrile symptoms begin to subside, may be combined with or followed by the use of quinine, or some other tonic; which, at certain stages of the complaint, may be better calculated to improve the function of assimilation. In allaying the general irritability of the system, and more particularly the irritability of the heart, opium, conium, and nitre, together with the cautious administration of antimony, are remedies of the greatest value; and, if vascular action be excessive, and excretion sluggish, blood-letting may be sometimes beneficially employed." pp. 73, 74.

We do not remember to have seen any where so good a rationale for the treatment of this disease; and the adoption of these principles must, we are persuaded, relieve many patients from the empirical or specific routines which are only too common.

External applications, as well as internal remedies, are resorted to; leeches and blisters rarely, but warm fomentations frequently. A decided preference is given by the author to a mixed alkaline and opiate solution for making the fomentations; his mode being to use potassæ carb., ℥ i.; liq. opii sedativi, ʒ vi.; aquæ rosæ, ℥ ix., or the carbonate of potash in combination with decoction of poppies. Thin flannel, soaked in one of these mixtures, is to be wrapped about the joint, and over this gutta percha is to be placed. In lemon juice Dr. Fuller has no confidence, and only uses it to aid in making an agreeable effervescing draught.

Rheumatic gout "differs from rheumatism, in the frequency of its attacks, and the increase exhibited at each recurrence in the severity and obstinacy of its symptoms; in invading the small joints in preference to the larger; in being more stationary, and often causing thickening and permanent enlargement; in rarely involving the heart or its membranes; and in sometimes producing desquamation of the skin." p. 260. It differs as much from true gout, and sometimes accompanies or follows both these diseases. The diagnosis is, therefore, sometimes made with difficulty, though in general it is not so. The remedies employed by Dr. F. are "alkalies, colchicum, small doses of antimony, and alterative doses of blue pill or calomel, with an occasional purgative, topical applications to the joints, and strict attention to diet." This bare enumeration, all that our limits allow, does no justice to the author's statement of his principles of treatment, which will well repay careful study. It is in this form of the disease that the use of the water of warm and sulphurous springs is beneficial.

Chronic rheumatism attacking, as it does, chiefly the muscles, may follow the acute form of the disease, or may be idiopathic. Lumbago, "stiff neck," and intercostal rheumatism, are some of its more common forms. Nodes often result from a periosteal rheumatism, when neither mercury or syphilis have tainted the constitution.

To the author's treatment of this form of the disease, varied as it is, according to the seat of the inflammation and the general condition of the patient, a synopsis would do too much injustice to allow us to give one; for almost every page is rich with practical suggestions as to the form of treatment to be in any case adopted; and they abound in excellent formulas for prescribing the remedies.

About one hundred pages of the book are devoted to the diseases of the heart which are induced by rheumatism, and on this portion it was our intention to dwell. But the subject has so grown under our hand, and so increases, that it is necessary either to do injustice to the subject or to Dr. Fuller, to neither of which are we inclined. A topic of so much interest, and which is now being so ably discussed in our own country, as well as abroad, cannot be hastily passed over, if it is at all touched upon; and we are therefore compelled, for the present at least, to put it to one side.

Our purpose has been, not to give such a synopsis of the work as would preclude the necessity of a careful study of it; but, rather, to show as briefly as possible, that it contained matter of unusual interest to the profession, and concerning a disease more or less frequently occurring in every physician's practice. In conclusion, we may add that the Messrs. Wood have done their part handsomely, in republishing the volume; the type, paper, and binding, all being good and agreeable to the eye. These, as well as the contents of a volume, are matters of decided importance; and we are glad to say, that, in this instance, all accord.

Varicose Veins and Varicose Ulcers. By THOMAS WILLIAM NUNN, Surgeon to the Westminster Dispensary, and Demonstrator of Anatomy at the Middlesex Hospital, London. Published by Henry Renshaw, Strand, 1852.

In the first section of this interesting essay, the author treats of certain points connected with the anatomy and function of the superficial veins, dividing the subcutaneous veins into two sets, the supplemental and integumental, considering the former subservient to the latter, and both easily discernible from each other by their anatomical structure, size, direction, etc. The writer assumes that the supplementary set of the subcutaneous veins allows a free passage to the returning blood, while the venæ comites are undergoing compression by the contracting muscles of the limb, thus acting as a safeguard against the contingency of congestion of the active organs of locomotion; and proves this successfully by practical illustrations. The second section comprises, the pathology of varicose veins, and the changes in the skin dependent on it. The author classifies the varieties in I. simple dilatation of the vein; II. dilatation, accompanied

with attenuation of the walls; III. dilatation, accompanied by thickening and hardening of the walls of the vein.

In enumerating the general results of the different forms of varicosities, the author ventures to differ from Sir Benjamin Brodie, who considers one form of œdema to be the result of inflammatory action in the cellular membrane, while the author describes the tumefaction as indicating an active sweating out of fluid from the capillaries; "from the vast extent of surface presented by the integumental plexus, one has no difficulty of accounting for any amount of infiltration."

The third section is devoted to the treatment of varicose veins and varicose ulcers. The causes producing varicosities, the author states, may be derived from one of two sources: (*a.*) the momentum the blood has communicated to it through the arteries, reacting upon the walls of the vessels, its transit being impeded; (*b.*) the property a column of fluid has of exerting a force proportionate to its perpendicular height. According to this view, the writer divides the cases of varicose veins into two classes: the first, in which impediment in the transit of blood exists, and constitutes the exciting cause; the second, in which the disease is produced or continued by hydrostatic pressure. The author points out the necessity of preserving a free route through the superficial abdominal veins, especially the epigastric, when a gravid uterus or other abdominal tumor is the impediment. In the second form, the author recommends the application of pads. The author says, p. 52, "If the walls of the vein be pressed against each other, no blood can pass either in an upward or downward direction, and the vein is as completely closed as though a ligature had been placed around it. By the application of pads all the advantages of the radical cure may be obtained, without any of the danger attendant on that proceeding. The pads should be made of soft elastic wood, and the compressing band must be between three and four inches broad." One pad placed below the knee usually suffices; sometimes, however, the number of pads must be increased. Theoretically we should have doubted, somewhat, the success of such a treatment, had we not been an eye-witness of its practical advantage in the reported cases. G.

PART III.—CHRONICLE OF MEDICAL PROGRESS.

[The abstracts and translations found under this title are made expressly for the AMERICAN MEDICAL MONTHLY.]

PATHOLOGY.

On the condition and appearance of the eyes in diseases of other parts. By Prof. C. G. TH. RUETE.

AFTER some introductory remarks on the value of eye-symptoms for diagnosis and prognosis, the author proceeds to the consideration of the condition of the eyes in particular groups of diseases.

1. *Dyscrasiæ.*—In these are especially noticeable, alterations of color in the eyelids, the conjunctiva, the aqueous humor and the crystalline lens, which, nevertheless, rarely indicate a mere abnormal composition of blood, but rather defects of nutrition, circulation, and innervation. In chlorosis, anæmia, hydræmia, and similar conditions of the blood, we find bluish or whitish rings about the inferior eyelids, paleness of the conjunctiva and lachrymal caruncle, isolated bluish vessels of the conjunctiva, dull look, and frequently swollen eyelids. Venosity in its higher degrees produces blue rings about the eyes, and reddish-blue coloration of the sclerotica; the latter proceeds from the delicacy of the sclerotica, which permits the deep parts of the eye to shine through. This is also found in some diseases of nutrition; in children it is not a morbid symptom. In typhus petechialis and putridus, besides the reddish-blue color of the eyelids, often appear, also, as in scorbutus and morbus Werlhofii [purpura hemorrhagica], bluish spots (ecchymoses) upon the upper eyelids, and reddish spots and lines beneath the discolored, dirty conjunctiva, first at the border of the cornea, and extend thence over the whole conjunctiva bulbi. When the coloring matter of the bile passes into the blood in icterus, yellow fever, &c., the sclerotica, and in higher degree also the aqueous humor, are the first to appear yellow, and corresponding with this an alteration of the color of the iris; *e. g.* a previously blue iris appears greenish. Moreover, a pale yellow color of the conjunctiva is found in old persons, and even in young individuals, when many and somewhat varicose veins, or at times little masses of fat, penetrate this membrane. This latter coloration appears especially in a direct transverse line, whilst the icteric is first observed at the periphery of the globe. The melanotic cacæmia changes the extravasations of blood existing at the time beneath the conjunctiva sometimes into yellow, dark brown, even black, often somewhat marked, melanotic spots, which almost

always indicate the existence of similar alterations in other organs. The alteration of the eyes in other dyscrasic diseases, as diabetes, uræmia, lead colic, menostasia, hemorrhoids, scrofulosis, scirrhus, &c. are only derived from the relaxation of the tissues in consequence of disturbances of nutrition, circulation, secretion, and innervation.

2. *Disturbances of the circulation*, are expressed in the eye by hyperæmia, stasis, or anæmia. Active hyperæmia of the eye, by which the vessels of the eyelids and conjunctiva become turgescent and thus determine a red coloration with increased secretion of tears and increased lustre of the eye, indicates increased action of the heart, or irritation of the nerves of the head and eye. The former is induced by psychical disturbances, inflammations, fever, cardiac hypertrophy; the latter by inflammations of the brain, of the throat, of the eyes, and neuralgia of the trigeminus. Special signs for special diseases in reference to color and vascular distribution are *not* found, except that in bilious fevers a yellowish coloration is observed. Hyperæmia indicates merely determination of blood to the head; and the special form and distribution of the vessels in particular inflammations of the eye do not depend upon the exciting causes, but upon the anatomical structure of the parts concerned. Passive hyperæmia of the eyes and their neighboring parts arises in consequence of obstructed reflux of the blood, or of relaxation of the vascular walls on account of debility of the whole body or of the nerves concerned. We see, then, the vessels of the temporal region, of the eyelids, and of the conjunctiva, in different parts thickened, varicose, livid, often with extravasations of blood beneath the conjunctiva, œdematous swelling of the tissues, aversion to light, and other disturbances of vision. The abnormities of the lesser circulation, induced by diseases of the trachea, the bronchii, the lungs and their envelopes, of the heart, of the abdomen, by swellings in the proximity of the great veins of the neck, obstruct the reflux of blood from the head. Typhus fever, and all chronic diseases which impair nutrition, scrofula, gout, tuberculosis, rachitis, chlorosis, scirrhus, retard the peripheric circulation, and induce an over-fulness of the small vessels, which lie, like those of the conjunctiva and lids, in easily distensible tissues. In typhous diseases, and in central and peripheric torpor of the nerves of the eye, hyperæmia is induced by weakened innervation. Nevertheless, the causes of hyperæmia must also be inferred from other signs, and this alone affords no pathognomonic sign. Anæmia of the eyes owes its origin to obliteration of the vessels in consequence of chronic inflammations, or of constriction of the same from debility of the cerebral nerves, with simultaneous increased power of resistance of the vasomotory nerves. If the anæmia of the eyes is accompanied by anæmia of the brain, with obscurity of vision, giddiness, fainting, paleness of the face, especially when the long-confined patient gets up again, we must infer a general anæmia, or debility of the

muscular power of the heart, which either becomes diminished by wasting of the body in chronic diseases, or suddenly from psychical and other depressing influences.

3. *Anomalies of secretion and resorption* in the eye, are the result either of abnormal composition of blood, or disturbed circulation and innervation. The qualitative alterations of the fluids of the eye; the presence of bile, sugar, urine, calcareous salts in the tears, in icterus, diabetes, uræmia, gout; the want of alkalescence of the aqueous humor, in rheumatism, scrofulosis, &c.,—are not yet sufficiently determined to become considered as diagnostic signs. We can, nevertheless, conclude upon a perverse composition of blood, from the progressing development of soft cataract, since the nutritive fluid of the lens, of the aqueous and vitreous humors, are secreted without the intervention of glands directly from the blood, the composition of which is thus indirectly manifested in the crystalline lens. The quantitative alterations afford more definite signs, the causes of which are circulatory disturbances. Hyperæmia produces an increased, mostly watery secretion, therefore, in nervous excitation from psychical or other influences, profuse secretion of tears and mucus, even œdema of the lids. Removal of the moderating nervous influence either prevents the secretion, or in consequence of relaxation of the vascular walls, permits the blood-plasma, or even the blood itself to exude; the eye assumes a venous coloration, and is covered with tears, and tough, often blood-colored mucus. Hence comes a wild or vacant expression of countenance, slight dilatation of the pupil, œdema of the half-closed dependent lids. In the highest degree of the disease, even colliquation of the eye follows. These phenomena are found in debilitated states of the trigeminus which do not affect simultaneously the sympathetic, in typhous, putrid fevers, cerebral inflammations, &c., in the last stages of chronic diseases, with long-continuing agony. Œdema of the eyelids, especially observable in the morning, and yielding at evening to swelling of the feet, shows itself often in chlorosis, hydræmia, and in all the conditions which determine cutaneous dropsy. Delicate blondines not seldom have œdema of the lids without inflammation of the circumjacent parts, after agitation of mind, colds, and similar affections. Dryness of the eye without previous ophthalmia, in consequence of obstructed secretion of the lachrymal and conjunctival glands, proceeds from a debilitated condition of the cerebral nerves. We find it, *e. g.* in debility of the trigeminus, after fatigues of mind, as a precursor of insanity.

4. *Disturbances of nutrition* are not without influence upon the habitus of the eye; but they cannot by this be recognized according to their specific nature, whilst their consequences, general plethora, anæmia, fatty disease, emaciation, collapse, laxness of the tissues, are accompanied by very different signs in the eye. The effects of the first have been already mentioned:

immoderate general deposition of fat becomes observable, also, in the orbit of the eye and the lids; the globe becomes somewhat prominent, nevertheless, being more than usually covered by the relaxed eyelids, the space between the latter appears diminished. On the other hand, if the orbit becomes narrowed by local swellings, when the anterior lobes of the brain are enlarged, or chronic hydrocephalus occurs, the ocular globes become more prominent, without being covered by the thin, somewhat livid lids. Moreover, the wild or expressionless appearance in cerebral diseases, the intelligent look in rachitis and pædatrophy, the projection of the frontal bone, &c., furnish here sufficient evidences for diagnosis. In gradual emaciation, the fat of the orbit, also, disappears in due time; the globes of the eye retreat, but appear larger on account of simultaneous emaciation of the eyelids, the expression is lax, but cheerful and intelligent when there is no cerebral lesion; the lids, pale at first, become somewhat livid, and when closed permit the iris to shine through as a ring. The condition of the conjunctiva is the same as in anæmia; through it and the attenuated sclerotica we can see the dark background of the eye, presenting a blue appearance. The circumference of the eye shows, especially upon the lower lid, the livid ring which proceeds from the thinness and collapse of the tissues, through which hyperæmic veins become visible. If the eyes fall quickly back into their orbits, if they are surrounded with a reddish-brown, violet, or livid ring, the color of which extends, also, to the upper eyelids, this indicates, especially when the features are stiff and immovable, an important sinking of the nervous power and collapse of the tissues, in consequence of loss of fluids, internal hemorrhage, and decomposition of the fluids. We observe this alteration in typhus and putrid fevers, poisonings with acrid poisons, cholera asphyxia, and in the agony after most chronic diseases; it is a sign of approaching death.

5. The *innervation* of the eye yields to the most frequent disturbances, and furnishes the most important signs, especially in reference to *prognosis*. Uniform, fair, yellowish-red coloration; moderate turgor, and neither too slow nor too swift movement of the eyelids; soft redness of the conjunctiva palpebrarum, and caruncula lachrymalis; moderate tension, and mild lustre of the globe; single, delicate red vessels playing in the white of the sclerotic conjunctiva; in adults a white, in young subjects a uniform bluish white, in the old a yellowish sclerotica; a certain neither too slow nor too quick changing of the convergence of the axes of vision, which correspond to the object seen; and a dilatation and contraction of the pupil conformable to the degree of light,—these are the signs of an undisturbed innervation. Abnormities are manifested in lesions of the motory nerves by spasm and paralysis, in those of the sensitive nerves and of nutrition, by hyperæsthesiæ and anæsthesiæ.

a. Spastic phenomena in the eye, which do not depend upon idiopathic affections of its different parts, point to an idiopathic or consensual lesion of the brain, without, however, designating more exactly its nature. Trembling and blinking of the eyelids, with a wandering, unsteady look, are found in cerebral irritation, therefore, in disquiet of mind, anxiety, shame, perplexity; also in erethistic, inflammatory fevers, at the commencement of cerebral inflammation, of acute hydrocephalus, delirium tremens, chorea, eclampsia, and epilepsy. A wild look, with quick motions, and parallel direction of the axes of vision, without fixidity upon objects of vision, is a higher degree of the wandering look. It is sometimes connected with fiery redness, sometimes with paleness of the face, and is often a precursor of cerebral inflammation and mania, often an indication of sinking of the forces, loss of consciousness and approach of death. A staring look, immobility of the parallel axes of vision, wide openness of the eyelids, and dilatation of the pupils are found when the thoughts of the patient are directed to one point, in psychical diseases, in corporeal lesions in which the brain is affected, as in violent pains, typhus fever, gastro-malacia, &c. A sad, earnest look, a slight degree of the staring, indicates a mental or corporeal affection with consciousness, and is especially observed in diseases which seriously affect the organism without weakening the mental powers, *e. g.* in scirrhus ventriculi, diseases of the liver and spleen, secondary syphilis, chronic diseases of the lungs and throat. In these the corrugators are contracted, the eyelids half closed, the axes of vision move slowly from one object to another and fall easily into the staring look. Another form of the staring look is observed in severe affections of the brain, with loss of consciousness; the eyelids are wide open, and the globe prominent or sunken, the first from tension of the oblique, the latter from contraction of the recti muscles. This phenomenon is not to be considered an index to the nature of the disease. The same cause occasions the eyes to become distorted. Although in encephalitis, acute hydrocephalus, epilepsy, eclampsia, hysteria, apoplexy, &c. they are mostly turned upwards; yet in the same diseases they also take other directions. In psychical diseases, also, the direction of the eyes shows only in general a cerebral affection. The searching look of the insane has not at all its apparent significance; it merely reaches the surface, and does not penetrate the thought of the person seen, and very soon loses this appearance itself. Herein are the insane very different from an angry man of sound mind. Many let their eyes fall upon objects without perceiving them, often even the axes of vision intersect each other before they reach these objects; others direct their eyes where nothing is to be seen, mostly because they see spectra. At times the eyes are continually moved and distorted. Most patients cannot bear our glance, they cast down their eyes or turn them away. The eyes have

often a peculiar, glassy appearance, and are then more or less staring, which indicates the beginning of a severe attack. Finally, in the more violent attacks the eyes stand with extinguished look, and are then a sign of beginning idiocy.

b. As to the diagnostic importance of the eyes in *paresis* and *paralysis*, we can often draw a conclusion, in reference to the seat of the difficulty, from the paralysed muscles themselves. Upon this point the author lays down the following propositions: 1. The nearer the torpor to the ends of the particular nervous filaments, the more ground have we for considering the cause peripheric. 2. When the paralysis affects all branches of a nervous trunk, the cause lies in that trunk before its division into the peripheric branches. 3. When, besides all the branches of one nerve, neighboring nerves are also paralyzed, the cause is to be sought in the central organ itself, or near the place where the first nerve leaves the central organ. 4. When nerves corresponding to one another are disturbed in their function upon both sides of the body, it is supposed that the seat of the evil may be in the central organ; since, however, the distribution of the nervous roots in their central organ, and their connection with the cerebral fibres is yet little known, we must be cautious in adopting this opinion. A dull look only indicates diminished innervation, and is found when the eyelids are somewhat dependent, or even somewhat œdematous, and move but slowly; when the axes of vision fall, indeed, upon the fixed object, but soon deviate from it and move sluggishly and without energy; and when the globe itself takes on a dull lustre. If an inattentive mien is accompanied by signs of sadness or pain, in the first case the axes of vision are turned downwards, in the latter downwards and laterally. We find this in the beginning of typhus and putrid fevers, of chronic cerebral diseases, of hydrocephalus, of cerebral softening, in profuse fluid losses, in strong, especially depressing emotions of mind, in the later stages of severe inflammatory diseases, chronic diseases of the liver and spleen, lungs, and kidneys. It is not, however, a key to any definite disease. The extinguished look, which is only a higher degree of the dull look, is a sign of very great cerebral torpor, and of great danger. The eyelids are then, even in sleep, half closed, the upper one depends loosely, especially towards the outer angle, and moves but seldom and slowly. The eye is dirty, and when the resorptive power of the lachrymal puncta is paralyzed, dirty tears run from the outer corner of the eye, the conjunctiva is traversed by dark veins, the pupil is somewhat dilated and almost insensible to the irritation of light, the axes of vision are parallel, and the movements of the eyes, which are never fixed on one object, are slow. If these phenomena are more perceptible in one eye than the other, the same side of the brain is the special seat of lesion. A dull look during waking, which approaches the extinguished look, and is

connected in sleep with distortion of the eyes upwards, even with divergence of the axes of vision, indicates always a severe cerebral lesion, which either proceeds from exudation in the sinus of the brain, or from great weakness in putrid and typhus fevers, cholera, asphyxia, or narcotic poisonings. Squinting dependent on torpor, oblique vision, and anæsthesia of particular parts of one or both eyes, are to be judged according to the above-stated propositions, and indicate, when a peripheric lesion of the nerves is not to be detected, that the difficulty is limited to a small part of the brain, which can often be exactly determined. Generally, the cause is a circumscribed exudation or extravasation. If, however, the symptoms are intermittent, the difficulty is of a spasmodic character, and arises from a temporary irritation.

c. In *hyperæsthesia* of the optic nerves we observe sometimes aversion to light, with or without dark or colored or shining appearances before the eyes; with reflex or spasmodic contractions of the muscles of the forehead, of the eyebrows, of the eyelids, of the globe, of the iris, with profuse secretion of tears; sometimes pressing pains in the supra-orbital region and in the globe, with aversion to light and nausea; sometimes neuralgic pains in the course of the twigs of the optic branch of the trigeminus, upon which follow secondary lesions of the muscles, of the blood-vessels, and of the secretory organs of the eye. Hyperæsthesia indicates a cerebral lesion, the cause of which, frequently, as in epilepsy, hysteria, and other diseases of the brain, remains fully concealed, but which is not seldom connected with other abnormities, as in gout, hemorrhoid, fluid losses, &c.; finally, also, with congestions and inflammations, e. g. hydrophobia, encephalitis, acute hydrocephalus, synochal, erethistic, and typhus fevers. Since the hyperæsthesiæ frequently arise from cerebral lesions, the expression of the old physicians is not wholly to be reproached, who declared it a precursor of a new attack of delirium.

d. Anæsthesia of the optic nerves, that is, total or partial abolition, either of the power of sense alone or of all the influences which are reflected upon the other parts from irritation of the nerves of sensation, produces in the eye the most various symptoms, according as it is complete or incomplete, and according as the seat of its cause is central or peripheric. The central anæsthesiæ, e. g. the amauroses, are either constant or intermitting. How the latter arise is not yet sufficiently known. The transient amauroses and amblyopiæ, which we often observe in anæmia and congestions, in fevers before the crisis, in intermittent fevers, in nervous or hysteric subjects, indicate, indeed, a cerebral lesion, but they afford no very unfavorable prognosis; if, however, they occur at the end of severe diseases, e. g. in phthisis, they always announce death. Anæsthesiæ, especially amauroses, which are developed in a short time, without having their foundation in altera-

tions of the eye itself, are connected through chronic and acute diseases, often with disorganization of that portion of the brain which is in connection with the organ of vision, and are, at times, the first symptoms of this disorganization. Amauroses, without diseases of the eye or brain, except those arising in diseases of remote parts through consensus, do not occur.—*Schmidt's Jahrbücher*, 1854.

On Cystosarcoma of the Mammary Gland. By Prof. Schuh, of Vienna.

Parenchymatous cysts are very frequently developed in and about the mammary gland. The phenomena differ according to the kind of parenchyma, the period of the disease, and the size of the cysts. When no partial softness and fluctuation point to the presence of a cavity, and when the tumor is yet small, the form of disease and, much less, the nature of the parenchyma cannot at all be determined, and a calcareous fibroid, a simple glandular gelatinous tumor, an enchondroma, a schirrus, &c., cannot be distinguished, the one from the other.

A. *Non-malignant cystosarcoma.*

1. *Gelatinous cystosarcomata, or those rich in parenchyma*, are by far the most frequent cystosarcomata of the mammary gland, and, after fibrous cancer and medullary sarcoma, the most frequent spurious tissue of this region. The mass presents, in the beginning, the phenomena of the glandular gelatinous tumor; it is hard, somewhat uneven, of a roundish or bean shape, circumscribed, movable, but is attached more firmly by the side towards the gland, than by the other parts. Not unfrequently a pair of nodules are found near one another, or several in different parts of the mammary gland, which may, then, be considered as a characteristic phenomenon of this affection. I have also seen them upon both mammary glands, but of unequal development. They more frequently originate in the superior than in the inferior half of the organ. Only the smaller number of patients complain of pain, which arises spontaneously, resembles transient, penetrating lancinations, or is called forth by pressure or the motions of the arm. It appears to depend upon the traction of a nerve-fibre, which is placed in a state of tension by the capsule of the tumor. In young girls, especially, it becomes, at times, very tedious, extending itself even to the arm. The cysts are usually first recognized as such when the tumor has already reached the size of an egg, or larger, and especially from the pliability, elasticity, or real fluctuation, in one or more places. Deception is also here possible, because particular parts of the tissue may be much softer and elastic in a high degree, and thereby appear to fluctuate. The structure of *slow growth* usually assumes an irregular, nodulated form, and the common

covering takes its shape with the most projecting and softest parts. The increase in size, however, does not always take place slowly, so that in ten or twelve years the circumference scarcely exceeds that of a hen's egg; but often *extremely rapid*, so that the mass in two years equals the size of the head. The growth also, which has been for a long time moderate, may become suddenly very much accelerated, either through traumatic injury, through irritating local treatment, or without any appreciable cause. The more the cysts increase at the expense of the original parenchyma, the more rapid is the growth, and the more the cystosarcomata assume a roundish, abruptly conical, or irregularly spherical, form, with flattened arcs. The tissue of the mammary gland becomes in a short time supplanted. At the time of menstruation the turgescence is increased; tension, also, and even very lively pain may be felt, especially at night, which are dependent upon the tension and traction of the nerves of this region, especially when a very heavy tumor is not supported. The tumor always remains movable, and even when of monstrous size is not at all, or in a very slight manner, attached to the pectoral muscle. When a cyst is in communication with a milk-duct, from time to time, or once only as greater tension occurs, a yellowish fluid of an albuminous appearance, or a thinner one of the brown-red color of dissolved blood, is effused from the nipple, with diminution of the size of the tumor. When there is great volume, the skin covering the tumor has distended veins, at the most prominent points a bluish or red-brown color, or marbled when there is still greater distension, and always of abnormal growth at the darkest parts. According to circumstances, whether the large cysts lie more at the surface or deeper seated, and whether they are filled more with fluidity or exuberant growths, is the resistance very different; sometimes everywhere yielding and elastic, sometimes everywhere hard, sometimes both in different places. So, also, we sometimes find distinct, sometimes indistinct, sometimes no fluctuation. The axillary glands are never swollen.

Especial mention should be made of the rupture of the tumor, which takes place in rare cases when it has only reached the size of the fist, but in other cases not until the tumor has acquired a volume equal to that of the head. It occurs in cystosarcomata which have large cysts placed very superficially, or in which a very luxuriant growth of endophytes* takes place, penetrating the circumference of the cysts and the external envelop of cellular tissue, thus producing the form of laminated cystosarcomata. At a certain point of the skin a round opening is formed, out of which springs

* The word rendered endophyte, throughout this article, is "Auswüchse," which is equivalent to our anglicised Latin word, *excrescence;* but excrescence conveys the idea of an exterior and centrifugal growth, while that in question is an interior and centripetal growth from the inner wall of a cyst.—TRANS.

the new structure, in the form of the segment of a small ball, with a dark red, uneven surface, which is covered partly with coagulated blood, with greenish yellow gangrenescent particles, with thread-like bands, and fine fringes. The tissue, under the influence of the irritation of air, develops its vegetative power so rapidly that at times the increase of the new growth, extremely rich in blood and often producing strong hæmorrhage, can be observed from hour to hour; and, in twenty-four hours, an enlargement of double its size. The denuded spot is then extremely sensitive to touch, the patients complain of a constant severe burning, the surrounding part is inflamed, and a very violent fever is developed, which, on account of the extending gangrene, may assume a very dangerous character. Highly interesting, and perhaps unique in its character, was a case of mine, in which were found four dazzling white bodies, recognizable, at first sight, as laminated masses of epidermis, seated in dimples upon the surface, and easily raised so as to present about the size of a bean.

Twice I have seen a natural cure through a fortunate enucleation of the foreign growth.

The qtuick growth, the coloration of the skin, the distension of the cutaneous veins, the rupture and rapid increase of the structure, might delude a less experienced surgeon with the idea of medullary sarcoma; but to this is opposed the great movability, the globular form, the want of glandular swelling in the axilla, in many cases, also, the yet blooming appearance of the individual, and in others the existence of evident signs of scrofulosis.

Anatomy.—The original structures out of which these cystosarcomata are developed, are, in all probability, of a twofold character, but I here place them together, since they both possess in life very similar properties, and have a similar course.

a. In a partly embryonal, partly developed cellular tissue of an areolar disposition, are contained distended, hollow structures, which are similar to the botryoid glands of the mucous membrane or to the elements of acinous glands, and filled with germs granulated, or inclosing a shining germinal corpuscle, more rarely cells. By treatment with a weak solution of potassa, they become more clearly visible, because the fibrinous intervening substance is paled. We see then in part single, roundish, hollow structures, without a canal; sometimes a real, grape-form body, whilst several of a long, flask-form shape incline towards one another, which may even be furnished with a short pedicle as an indication of an excretory duct. On account of tenderness, the wall of these structures is easily torn by pressure, so that the round germs or small cells appear in the field of vision in rounded heaps.

On account of the glandular structure, Abernethy calls it, *pancreatic sarcoma;* A. Cooper, *chronic tumor of the mammary gland*, and when it is

painful, *irritable tumor of the mammary gland;* Velpeau, *fibrinous and acenoid tumor;* Birket and Lebert reckon it among the *lobular and partial hypertrophies* of the mammary gland, and assert that it is always covered by the *fascia propria* of the gland, and stands in connection by a pedicle with the tissue of the same. But although their distinguished labors have convinced me that these hollow structures are terminal vesicles of an incompletely developed glandular tissue; yet I cannot consider the tumors as hypertrophies, because I remember many cases in which no connection with the mammary gland existed, and the lobular new formation, covered with a capsule, could be separated merely with the fingers. Besides, I have found a similar texture in tumors in the proximity of the parotid, as well without as within the masseteric fascia of this gland. Finally, the alterations and metamorphoses occurring in these tumors, and hereafter to be described, are too great to be compatible with the idea of an hypertrophy. I remain, therefore, of my former opinion, that in the glandular gelatinous tumor (steatoma), under certain circumstances, to which belong especially the connection with or proximity to a glandular organ, glandular elements may be developed which are imperfect, and therefore abnormal, in their functions.

The less glandular elements are contained in the tumor, the more rapidly does it usually grow and become transformed into a cystosarcoma. The first thing which is here observed, is the distinct glandular appearance of a cut surface; the granular contents of the glandular portion disappear, and the hollow structures are transformed into cysts, which are either filled with fluidity or with endophytes. It is very remarkable that the enlarged hollow structures by their shoots enter at times into manifold connection with neighboring loculi of this kind; a fact which I have not hitherto observed through the microscope, but by eyesight, as soon as the loculi were developed beyond a microscopic mass. The germinating endophytes may be of the most varied form, and either bear in themselves traces of their origin from the hollow bulbs, or else grow as solid so-called papillous excrescences, fill up the original loculus, even penetrate the cyst-wall, and continue to increase independently at the expense of the primitive structure.

b. More rarely, I have found the second species, that is, tumors connected with the mammary gland, which contain no botryoid hollow structures, but roundish cysts, that, scarcely the size of a hemp-seed, are for the most part so filled with endophytes, that the surface of a section appears perfectly level, without furrows or crevices, and only scraping it with the knife brings to light the true character. They are, likewise, lobed upon the surface, covered with a thick envelope of cellular tissue, and consist of cysts seated thickly one within the other, exceeding in mass the fundamental substance. The intervening tissue is like that of the former species. The

endophytes of the cysts are of the above-mentioned quality, and have a still greater inclination to break through their walls, and continue to grow independently. Besides, it is possible that the second species may be only a modification of the first, with the supposition that the separated glandular elements are very soon transformed into round cysts and produce endophytes.

The cystosarcomata proceeding from the above-described small tumors, exhibit very different forms, as may be inferred from what has already been said. In order to a more perfect understanding of them, we will describe the principal types of these remarkable formations.

1. *Aciniform, hollow structures, which, lined by laminated epithelium, preserve their form during growth, so that it appears as if the surrounding stratified mass grew in between their projections.*

A lobular tumor surrounded by a thick envelope, between the lobes of which sometimes a tender, sometimes a fascia-like cellular tissue penetrates, exhibits upon a section a partly smooth, partly granular surface. The mass is transparent, rich in gelatinous fluid, or else whitish and opaque. We see upon the surface of a section, sometimes scattered, sometimes in great number, little cleft-like loculi or round openings, which are surrounded by a yellowish, crisped border. A membrane exposed by means of a section through such a cleft, exhibits a hollow space, which passes into apophyses terminating in a point or again expanding at the end, between which juts in the surrounding tissue, in the form of conical or knob-like divisions. The border is laminated epithelium, then follows a structureless membrane, which bounds the gelatinoid mass consisting of amorphous and fibrous cellular tissue, in which an alveolus is prepared. At times we succeed in obtaining from this mass a microscopic preparation, in which may be seen the original clustered, hollow structure, with its tube-like pedicle. It incloses granular nuclei, which afterwards disappear.

2. *The acinous, hollow structures become during growth roundish or irregular, lined with a smooth membrane, and produce endophytes of a similar structure with the laminated mass. In them again are often developed clustered, hollow bodies and cleft-like loculi, with or without epithelium.*

In a young woman was found a very irregular, knotty tumor, somewhat larger than a hen's egg, in the right mammary gland, without the least prejudice to the latter; upon the left side, an abnormal growth had arisen about the same time, took on the same form, but grew in the last year so rapidly that it became larger than a child's head, assumed a globular shape, and completely swallowed up the gland.

The small tumor contained nothing but hollows and clefts, of a scarcely

visible size, in form from, points and furrows to the size of a hazel-nut. Some of the larger were round, the most of them very irregular and running into canals in various directions, and communicating in a manifold manner with other cavities, as could be readily demonstrated. Some were only filled with fluidity, others completely stuffed with vegetations, which were mostly seated upon one point of the wall, and had through pressure a laminated appearance; or that of a uniform mass bossed upon the surface, a section of this mass again presenting a multitude of extremely fine clefts and cavities. Some of these spaces, however, were apparently only the result of the incomplete growth of the vegetations situated one within the other. The smallest shoots of these vegetations exhibited also many microscopic, partly half-globular, partly very long, tuft-like apophyses of the structure of the fundamental mass; which were greatly crowded by the large number of cysts, and the papillous growths arising in them.

The large tumor, which was surrounded by an envelope of cellular tissue, contained many cysts with a cavity of the size of a hen's egg, lined by a smooth membrane; and a multitude of smaller ones, that appeared to the eye upon laceration of the tissue like fine clefts and furrows. They were partly globular, partly irregular, provided with embossments, long processes, &c.; or represented two concentric parts, like the cavity of the tunic of the testicle, whilst one wall was pressed against the opposite by the encroaching mass. In the smaller was a clear, sticky fluid; in the larger, a brownish fluid, with vegetations, partly in the form of small masses, partly extended and ramose, with short terminal bulbs, frequently giving the appearance of a cluster of the smallest berries. The growths seated mostly upon one point of the cyst, of a whitish, yellowish, or reddish color, often filled up the whole cyst, so that they became pressed through the wall, and presented rounded forms with superficial parallel curvatures, like the windings of a hypertrophic brain. At many points, they broke through their cysts; and the vegetations of different cavities crowding upon one another, became flattened, and from position and growth assumed a cock's-comb or papillar form. Hence, several cysts were often transformed into one, in which could be seen pouches, partitions or bands, the remnants of the cyst-walls. Through the crowding together of these growths from various sides, a firm mass was formed. If this did not take place at all points, by stretching or bending the substance, upon the cut surface could be seen long clefts easily distinguished from the cyst-cavities; whilst the whole tissue proclaimed its origin from the vegetations through the intertwining of chords set thickly together, partly parallel, partly intercrossing, imitating the fibrous disposition of the cardiac muscle. If the vegetations were bisected, the surface showed upon close examination a repetition of the same formation which lay at the base of the primitive mass; that is, there

were found again a multitude of smaller irregular cysts appearing like clefts or furrows, but in this case without distinct epithelium.

3. *As there are cases in which both the fundamental tissue and also the cysts near one another, continue to grow undeviatingly to a mass weighing many pounds; so, also, on the other hand can the endophytes, through luxuriant growth, supplant all the cyst-walls and surrounding fundamental substance, and by united increase, present in part a very uniform mass, and in part the most decided form of cystosarcoma phyllodes, which at last is inclosed in one single, large cyst, this again becoming penetrated by the continuous growth of its contents.*

A scrofulous female, twenty-five years of age, had an almost globular cyst, larger than a man's fist, causing atrophy of the mammary gland, with the exception of its inner part; which was connected with the adjacent tissues by very thick, almost tendinous, cellular tissue; and whose parenchymatous contents, at the anterior part, penetrated the cyst-wall, the adipose tissue, and the skin, and then grew exteriorly in a frightful manner. The sac could be separated, with some pains, from its contents, excepting at a few points. It consisted of two layers, the inner of which was marked with small clefts, furrows, and pouches, and with a trenchant-edged opening sufficient to admit the point of the little finger, which led into a cavity of the size of a walnut, lying between the inner and the already very thin exterior wall, into which the cyst-parenchyma grew with a contracted neck. At this point, which was directly opposite the outward rupture, was therefore the exterior perforation projected.

The mass itself was white, very firm, not capable of being crushed with the fingers; and the moisture adhering to the fingers in small quantity, but little adhesive. With the exception of the two perforating portions, the mass was smooth; and, on account of the very distinct windings, not dissimilar to the cerebellum, except that these were irregular, and received between them here and there conical eminences from a merely visible size to that of a pea. Upon a closer examination, partly by means of crowding asunder the parts, partly by sections in various regions, we could easily satisfy ourselves that the whole consisted of mere papillar structures, which in greater part grew one with the other to a uniform mass; a part were standing wholly free, a portion partially so. Where they were connected most thickly, and interiorly, the tissue was solid as a firm fibroid, with a mere appearance of tortuous lines designating the points of growth: where the connection was loose, they could be separated by the finger or a blunt instrument at the roots of the papillæ. Highly remarkable was the circumstance that, especially at those places where very many papillar roots united as at a point of divergence, shining, white, epidermal structures

were imbedded, from the size of a hemp-seed to that of a bean, laminated, very easily separable. The papillæ not connected with the thicker part were frequently so situated that they left remaining clefts or irregular spaces of from one-half to an inch in length, which contained no fluid. At these points, the size and form of the papillæ could be most distinctly seen. Some appeared as scarcely visible eminences; in the opposite rank were some an inch long, and sent forth occasional secondary papillæ. If they were transversely bisected, in the middle of many of them could be seen a very narrow canal, but which did not extend far down into the pedicle; in others, it could not be detected.

The supply of blood was upon the whole quite large, for upon the cut surfaces could be distinctly seen here and there *the lamina of vessels which ran along the pedicles to the thick ends.* But the supply to the growth subjected to exterior influences was extraordinarily great. *The most recent blood-formation was here presented in the form* of sharply-circumscribed, irregular *blood-centres*, reaching the size of a bean; and *interrupted vessels* coursing upon the surface of the papillar eminences, visible to the naked eye, *which appeared under the microscope as if without walls, very large, interruptedly ramose, and vermiformly curved.* The whole mass exposed to the air was throughout colored red by the new-formed blood, but not all parts in an equal degree.

4. *In other cases, the growths proceeded almost regularly from the periphery of the tumor towards the centre, whether there was originally but one cyst, or that those situated interiorly were supplanted; whereby, in both cases, a thick, fleshy tumor was formed, with a greater or smaller central cavity, into which the free conical ends projected in a convergent manner.*

Although this form is much rarer, yet I have operated upon such tumors. I found the cortex sometimes only a few lines, sometimes two inches thick. The transparent mass was always tolerably soft and easily crushed, provided with blood-points and lines without ramification. The free papillæ were especially colored red on account of the large supply of blood.

Etiology.—These tumors originate in maidens, in fruitful, and more rarely in barren women, who may be blooming and well nourished, or pale and emaciated. In very rare instances, others have observed them in men. They occur much more frequently in the irritable than in the phlegmatic temperament. At times the origin is referred to a traumatic lesion, but for the most part no appreciable cause can be discovered. Tumors having existed many years, often suddenly begin to grow rapidly; the cause of which is at times a traumatic one. It is certain, also, that scrofula disposes to this disease, and once I have seen it progressing in connection with pulmonary phthisis.

They are in the majority of cases benignant formations, although it is not rare that several of them occur in one breast, or upon both sides simultaneously, or sometimes are developed one after another. I have seen two or three cases of relapse after extirpation. Once I saw a second relapse. Whilst the patient was a blooming girl, she was operated upon in one breast; then twice while a fruitful woman, in the other breast—always at intervals of two or three years. The mass was never larger than a walnut.

The *operation* should never be long delayed, in order that the mammary gland may not be supplanted. I have never observed a disappearance of the tumor in consequence of a new pregnancy, or during lactation. The operation consists in extirpation, which need not be feared, even when the mass is of enormous dimensions. Since great movability always exists, an easy enucleation is accomplished without severe hemorrhage, and much of the skin covering the lateral parts of the tumor can be spared, while no great amount of surface becomes exposed. If perforation has taken place, we should hasten the operation, in order that the strength be not exhausted by repeated hemorrhages from the luxuriant excrescences, and that the gangrenous obstruction and its results be prevented. If, in consequence of the gangrenescence, violent fever and high inflammation of the surrounding tissues have occurred, and if the latter by cold poultices is not reduced to such narrow limits as the hemorrhages render desirable, the operation should be undertaken notwithstanding all these unfavorable circumstances. We should then, however, be prepared for inflammation of the lymphatic vessels, and erysipelas. After extirpation, the adipose tissue exposed by the wound should be closely examined, because at times very small independent nodules of the same texture exist, which must always be immediately removed.

II. Cystosarcoma of the Mammary Gland poor in Parenchyma.

They approach more the simple or compound cysts with rare growths from the inner wall, and therefore have proportionately less parenchyma, which is fibro-cellular, but in the endophytes of an embryonal cellular nature. They represent nodular irregularly formed tumors, which grow slowly, are unaccompanied by pain, and, according to my experience, rarely reach an important size; but when they do, they approach the globular form. The soft, fluctuating points often increase early with the skin, and may, from the dark color of the fluid content, induce a bluish translucency. The fact that the fluctuation is already felt when the tumor is of small size, may serve as a mark of distinction from the former variety. A cyst-like distension of the milk-ducts forms the basis of many of those which lie near the nipple, and discharge, from time to time, through the latter, a fatty fluid.

As examples, I adduce the following conditions: 1. A tumor of the size of a goose-egg, consisting merely of irregularly-formed cysts of various size ranked one within the other, whose septa were very thick and firm, and of a fibroid character. The inner wall of the envelop dirty blue, and as if uneven and radiated from scars. The content brown red, consisting of blood-coagula, as in aneurisms. Only in a few cysts was there a pale yellow, clod-like endophyte. 2. A conglomerate tumor of mere bossed cysts, of a nodular form, with little intervening substance. The envelop-walls, from the cleaving and transformation of the original structureless substance, consisted of several layers, the internal of which was fibreless, the middle broad-fibrous, and the exterior, with gradual transitions, distinctly and delicately fibrous. The most of these cavities filled with a sanguineous fluidity, a few with a white, here and there pale-red, moderately firm, easily lacerable, incompletely cellular mass, separable with difficulty from the wall. 3. Several very thick-walled, fibrous, irregularly-formed cysts, which contained a white content like softened tubercles.

B. Cystocarcinoma of the Breast.

I know from experience that in rare cases the soft, fibrous cancer, and the reticulated cancer enclose within them a greater or less central cavity; but this cannot be recognized with certainty, although the mass is then accustomed to assume a more globular form.

I have observed medullary sarcoma as cystosarcoma of the mammary gland, only in so far as the endophytes springing from the inner wall, which were composed of nuclei and cells, contained a milk-like instead of a sticky, transparent juice. I have also seen cases, which, according to the prevailing views, were evidently medullary sarcoma without stroma, where, in the small, soft mass, yellowish or rose-colored from effusion of blood, nuclei, white encephaloid nodules, and here and there fundamental substance containing cells, were interwoven. The existing cysts were, some large some small, filled partly with a sanguineous fluid content, partly with gray-white transparent growths.

I could not positively determine, during life, the medullary nature, when from the given signs it might be considered otherwise, for, as in cysto-steatoma, the form was more globular, the axillary glands were not at all swollen, and the patients often appeared perfectly healthy. The result of the operation, also, was mostly favorable.

Remarkable as it is, that medullary sarcoma, otherwise so deleterious to the lymphatic system and to the whole constitution, in the above-mentioned form, is borne easier and longer without injury; yet it is still more remarkable that the first form of cystosarcoma, almost always running its course perfectly benignant, in certain cases exhibits a high degree of malig-

nancy. I shall introduce here an example, in order for the future, from the slight peculiarities which it presents, to approach, perhaps, nearer to the true cause of this malignity.

A peasant woman, fifty years of age, childless, always healthy in her youth, had, six years before, observed a tumor in the left mammary gland. Two years since, she began to emaciate, which was evidently much owing to the fear of a mammary cancer. Some months since, the tumor grew remarkably fast. When I saw the patient, the degeneration was much larger than a child's head, globular, covered by a very blue skin traversed by many veins, very freely movable and circumscribed, with large and smooth nodes upon the surface; partly soft, nowhere fluctuating. No swelling of the axillary glands. The patient was lean, cachetic-looking, and did not leave her bed, on account of the traction caused by the weight of the tumor. Pulse quick, appetite poor, night-sweats; no pain was felt. As I found no organ suffering in any manner, and ascribed the weakness, loss of appetite, and emaciation, to her long confinement in bed and constant anxiety, and as the patient urgently desired removal, I undertook the enucleation, which was accomplished easily, quickly, and with very little loss of blood.

The mass had a fibrous envelop, with the shining appearance of a serous membrane, and consisted of many roundish lobular nodes, some of them the size of a goose-egg, between which the cellular envelope was propagated. Some nodes were firm, others soft, some gray and translucent, others whitish and scarcely translucent, others yellow like a tubercle. Very many cavities, a part quite small, globular and smoothly lined, a part irregular, provided with no distinct membrane. In the small ones as well as in the whole texture a sticky fluid, the larger almost filled with endophytes, which were extremely soft, not transparent, white or yellow, and represented in part granulated eminences or conical projections, in part pediculated, partly long-sessile, at times curvilinearly plaited or cockscomb-like papillæ. The very soft substance, as well as the fluid content of the latter cavities, were very rich in blood. The broken surface of the substance exterior to the cavities was somewhat fasciculated or foliated, the cut surface somewhat uneven, here and there round parts projecting, which (to the naked eye) were surrounded by fibrous tissue in the form of broad bands running in different directions. By scraping, we obtained some clear, sticky fluid.

Under the microscope the juice exhibited remarkably clear, naked nuclei. The firm intervening substance was striped, only at particular points distinctly fibrous, whilst in all other parts the fibrinization took place only through ranks of long nuclei. Together with these, granulated nuclei were also seen. In this tissue lay imbedded a quantity of microscopic cysts, which appeared like round heaps of granular nuclei, surrounded by

concentric fibrous layers, which were separable by acetic acid, frequently into rings of nuclei. Finally, here and there follicular hollow structures appeared filled with granulated nuclei, which at times were diverficulated in a manifold manner; that is, botryoid hollow loculi. The soft endophytes in the irregular cavities were in the process of fatty transformation, and exhibited, therefore, fat globules of all sizes, nuclei, and cells filled with greenish shining nuclei, and such a quantity of molecules that often the whole preparation was obscured. The stroma holding together these elements appeared to be structureless, and showed at the borders of the preparation, here and there, round eminences with nuclei and cells. Furthermore, there were also seen large, round or irregular, yellowish, shining laminæ, becoming through pressure paler and duller, which I looked upon as coagula of organic materials.

The woman had soon recovered from the operation; the yellowish tone of the color of her face was lost; her appetite came, and also more muscular power. But as the wound was near cicatrization, a new growth began at the yet open point, which spread with extraordinary rapidity, secreted a large quantity of serous, sticky fluidity, exhibited upon the surface nodes of the size of a walnut, which were tolerably soft and covered with a gelatinous, transparent, gray-white coating, and immovably connected with the surrounding tissue. Under the increasing growth of this mass she died, three months after the operation.

The whole tissue of this tumor accorded in the main with common cysto-steatoma; but the highly fatty and tubercle-like transformation, and especially the papillar and fasciculated fracture of the fundamental tissue is an unusual phenomenon. The texture approached, thereby, reticulated cancer; for in this we find, besides the peculiar cleft surface, frequently a conglomeration of variously colored nodes, of nearly equal size, of which one or another is colored yellow from tuberculous detrition. This woman, furthermore, was already past that period of life, when benignant cystosarcoma is accustomed to occur. It is therefore worthy of future inquiry, whether the transition of the tissue into that of reticulated cancer under favor of the climacteric years, furnishes the cause wherefore cysto-steatomata at times take on so malignant a course. This case also shows, that the botryoid hollow structures may be lodged not only in an imperfectly or perfectly developed cellular tissue, but also in other textures.—*Medicinische Wochenschrift* [*Vienna*], *April*, 1854.

PART IV.—HOSPITAL RECORDS.

[This department of the Monthly is under the charge of, and compiled and written by Henry Melville, M. D.]

Institutions under the Management of the Commissioners of Emigration.

These are, the Marine Hospital at Staten Island, and the several Medical and Surgical wards, and the House of Refuge at Ward's Island.

Through the kindness of the commissioners, and the politeness of Mr. Walsh, I have been put in possession of several printed documents connected with the proceedings of this corporation and the institutions under its management. I regret that, owing to the casualty of fire, which occurred in the building in which the records were kept, and the confusion resulting in the endeavor to rescue them, some of the printed reports have been temporarily mislaid or permanently lost.

From those documents in my possession, however, and from information obtained from other sources (the donors of which will, I trust, excuse a more detailed acknowledgement), I have been able to construct the following narrative, which, as a portion of the institutional histories proposed and commenced in the first volume, will, I hope, prove interesting to the reader.

It would seem that, in the earlier years of their official duties, the commissioners had to contend with many serious difficulties, arising from insufficient legislation, pecuniary embarrassment, public opposition, popular prejudice, and, in some measure, from internal dissensions. These circumstances are, however, but the common lot of the wisest of human arrangements; they belong to the past, and it would be neither relevant to our present purpose, nor beneficial to the cause of humanity and science, to penetrate the veil which time has drawn over them. It is sufficient to know that the Legislature have evinced no disinclination to make such provision, from time to time, for the better organization of the system of emigrant management, as the accumulated experience of the commissioners has made apparent. Nor can it be doubted that it will continue to act with the same liberal spirit, on all the suggestions which they shall make in future, when these are found to be reasonable in their nature, practicable for accomplishment, and devised with a direct and earnest purpose for the welfare and comfort of the stranger and expectant citizen. Much, if not all, of the opposition encountered at first, arising, in a great measure, from the nature of the constitutional enactments under which they exercised their functions, and carried, in some instances, to the extreme of litigation and judi-

cial interference, has subsided, in consequence of the changes which have been made in the several acts of the State Legislature, connected with their revenues, powers, and authority. May we not also reasonably hope, that popular prejudice will yield to the conviction, that there is no limit to the desire to fulfill to the utmost the obligatory duties, voluntarily assumed by the commissioners, towards those who, although they cannot, perhaps, be strictly and literally regarded as paupers, are yet objects of the deepest sympathy and fostering care to their fellow men, particularly from the peculiar manner in which they are generally presented to their regard. If abuses exist, there is a constitutional and effective manner of remedying them provided by the laws of the State. No defect, therefore, arising from collective error, or individual wilfulness, should be construed into a cause of reproach or fatal objection to the system, but should be repaired with energy and promptitude, and viewed with the most charitable feelings. It is an irksome and undesirable office, and in the absence of all pecuniary or other motive of interest, must be undertaken with the desire and intention of doing good. This exordium is by no means intended as an apology for the commissioners, were such even necessary, but as a simple tribute of testimony of the sense entertained by a very large proportion of the profession, of the efficient manner in which the medical care (that alone which it is here essential to notice) of the sick emigrant is regulated and provided for.

It is fortunate that, from the period at which the principal legislative defects were remedied, the records are perfect. I shall therefore commence the consideration of the transactions at a period when the course of events appears to have commenced to run somewhat more smoothly.

The supreme court of the United States, having finally adjudged the invalidity of the several laws of New York, on the subject of the taxes leviable on passengers arriving here, the Legislature, on the 11th of April, 1849, passed a law revising the whole system. As under this law certain changes were made which rendered the hospital at Staten Island a distinct establishment, and really brought Ward's Island, as an hospital, into existence, I propose to treat of each separately; first premising the general scheme upon which both charities are conducted and sustained.

The income which the commissioners have at their disposal for meeting the expenditure necessary to support these hospitals, is derived from a poll tax of $1 50 on every passenger arriving at the port, not a citizen. This sum was raised to $2 00 under the provisions of an act passed in April, 1853; but a reservation of fifty cents was made "as a separate fund, for the benefit of each and every county in this State, except the county of New York." This reserved amount is divided every three months, according to the claims which the counties may have for expenses incurred for the transport, maintenance, or care of emigrants. Any balance left after such distribution, is

then appropriated by the law to the general purposes account of the commissioners. This income is further increased by fines and penalties accruing from breach of the regulations prescribed by the act, from real estate and other property, and from sundry other sources. The following tables exhibit the revenue and expenditure for the past five years:

REVENUE.

1849.	Balance in bank,	$89,242 13	
	Commutation of bonds,	311,470 46	
	Other sources,	2,585 93	
			403,298 52
1850.	Commutation of bonds,	316,348 35	
	Other sources,	41,662 01	
			358,010 36
1851.	Commutation of bonds,	447,666 19	
	Other sources,	8,012 08	
			455,678 27
1852.	Commutation,	455,236 50	
	Other sources,	100,675 79	
			555,912 29
1853.	Commutation,	550,755 50	
	Other sources,	40,896 42	
			591,651 92
	Total,		$2,364,551 36

EXPENDITURE.

1849.	All sources,	$381,214 46	
1850.	"	369,561 39	
1851.	"	463,654 00	
1852.	"	569,516 74	
1853.	"	586,859 19	
		$2,370,805 78	
	Less difference of balances,	6,254 42	
			$2,364,551 36

I have not carried on the balances in each year, being desirous of contrasting the yearly receipts and disbursements, which, it will be perceived, vary considerably in each year; a contra charge of $1,351 16 for difference of balances on the side of the revenue, will exhibit the real balance shown by the last yearly report of the commissioners, viz., $7,605 58. Such are the large features of the extensive financial machinery necessary for the support of this system. In the details, those who are sufficiently interested in the matter to investigate the subject farther, will find evidence that, in spite of the apparent yearly increase of the amount accruing from the poll tax, the commissioners have been compelled, in order to meet the contin-

gent expenses, to mortgage a portion of the real estate held by them. Nor is it at all unlikely, in view of the indispensable improvements and extended accommodation necessary for the reception of the increasing demands upon them for support and care, that some such subsidiary means of revenue will be again demanded. The most interesting point in these details to the professional reader, however, is the proportion of this amount of expenditure devoted to the strictly medical charges. These we shall consider under the respective establishments.

All persons arriving at the port, laboring under infectious or contagious diseases, or contracting these after landing and within five years after their arrival, provided they have not been resident out of the State more than twelve months continuously, are entitled to be received into the Marine Hospital at Staten Island. All other cases of disease, under the same limitations, are admissible to Ward's Island.

MARINE HOSPITAL.

Under the acts which were in force in the earlier part of 1849, the marine hospitals were under the joint government of the Commissioners of Emigration and of the health-officer of the port; the former having the financial responsibility and the power over the property and supplies, whilst the health-officer was the chief physician of the establishment, with authority to appoint his medical assistants.

At that time, all passengers, whether citizens or aliens, arriving at the port, being subject to a tax, were entitled during one year, if requiring gratuitous medical care, to be received into this establishment; all contagious and infectious cases being, of course, retained there in performance of quarantine. The buildings appropriated for hospital purposes thus became filled to excess; and patients laboring under milder forms of disease were exposed to all the dangers of contagion and infection. Bedlow's Island and the U. S. Public Stores had been temporarily granted for the relief of the surfeited hospital. By the act of April 11th, 1849, the marine hospital was specially restricted to the reception of infectious cases, and placed under the separate charge of a physician in chief and four medical assistants, leaving the commissioners control over its financial concerns. The commissioners found it expedient, under the arrangements at this time, to unite to the specific duties of the chief physician those of resident superintendent, vesting him with the general inspection and control of the establishment, to carry into effect their by-laws, and to act under their authority in matters of discipline. These changes were found to answer the end in view then; and doubtless the conclusion arrived at by the commissioners is a just one, when, in commenting on the pestilence and mortality of the summer of that year,

they state that they were found to be a powerfully efficacious means in preventing its extension over crowds of other patients.

By the act of May, 1849, the selection and appointment of the nurses and orderlies were given to the several assistant physicians, each for his own department, the number being determined by the chief. The commissioners remonstrated against this; suggested that they should also be vested with the authority to dismiss these subordinates, and that the chief of the department, who was responsible for its general good order and moral character, should exercise a right of approval of all appointments so made, and be likewise vested with the power of dismissal. These remonstrances were repeated the following year, and the additional anomaly pointed out, that the chief physician and his assistants were appointed by the governor and senate for an unlimited term, without the reservation of any control over them, except during the session of the Legislature. Some deficiency in the regulations for the maintenance of quarantine on land, were also pointed out. Under the new law, the health officer's connection with the hospital was limited to the privilege of visiting and inspecting the hospital, and granting the discharges of patients. His duties on the water debarred him from the exercise of any watchfulness over the integrity of quarantine, as far as the hospital was concerned. This prerogative and responsibility they further recommended should be vested in the chief medical officer.

In their report for 1851, the commissioners also recommend the reduction of the number of resident assistant physicians from four to two, with authority to employ increased medical aid in case of emergency. This recommendation was offered in consequence of the greatly decreased proportion of patients at the Marine Hospital since the change in that establishment. This was apparently a prudential suggestion. It was also submitted that a reduction might be made in the salary of the physician.

Under the Revised Statutes of 1846, the health-officer, *as physician of the Marine Hospital*, was to receive a salary of $450; as health officer, he was entitled to certain fees on vessels visited and examined by him, ranging from $6 50 to $1 00. The emoluments arising from this source would of course depend upon the number of vessels in the aggregate, and of that of the various classes; and would make the revenue of the office, at the present day, one of the most desirable, in a pecuniary point of view, open to the ambition of the practitioner.

Under the act of 1849, when these combined offices were separated, the salary of the physician was fixed at $5,000 per annum. When it is considered that to perform his duties the physician must relinquish his private practice, and subject himself, and his family probably, to the risks attendant upon his duties, this remuneration cannot fairly be considered to have been large; and when, in addition to his responsible medical duties, the commis-

sioners sought to encumber him also with the functions of a general superintendent, it does seem that this proposal *of the majority* to reduce his emoluments was ill-timed and ungracious.

By the amendments made by the Legislature, in 1851, to the previous acts, the commissioners gained the several points contended for in their previous representations; the fifth section giving them the authority to employ and appoint and dismiss, at pleasure, a superintendent, physicians, and such other officers, nurses, and orderlies, and such servants, as they shall deem necessary for the management and care of the marine and other hospitals used for quarantine purposes.

By the sixth section, they are authorized to require the health-officer to perform the duties of physician to the Marine Hospital (thus abolishing the office of chief physician, and combining the two as under the old statute of 1846); in which case, says the act, he shall reside within the quarantine enclosure, and perform the duties of physician of Marine Hospital, and all other duties appertaining to that office, and discharge the patients from the hospital without compensation therefor. He shall also perform the duties of superintendent without compensation, if so required by the commissioners; and finally, he shall pay the wages of the boatmen whom they shall respectively employ. A marvellously considerate piece of legislation, certainly, for the benefit of one office! But the end is not yet.

The third paragraph of the annual report for 1852, commences thus: "The most remarkable feature in the immigration of the year, is its unprecedented increase," it exceeded, in fact, by nearly 70,000 the largest number arriving in any one year since the organization of the department. And added to the increase in numbers, was the frightful havoc made by ship-fever and cholera. The report refers to the change made in the law by the act of July, mentions the fact of Dr. F. Campbell Stewart's resignation, and alludes to the circumstance of Dr. Doane's compliance with the new requisitions of the law, to the entire satisfaction of the commissioners, for five months; but, unfortunately for the new system, he was attacked by ship fever on the 15th of January, and died on the 27th. Can we wonder at such a result, when we reflect on the multifarious and perilous duties he had to perform? Exposed to fatigue by sea and land; subjected to the constant inhalation of crowded, pestilential wards; harrassed by the various and diametrically opposite duties of health-officer, chief physician, and superintendent; his sympathies worked up by the fearful scenes around him; his anxiety augmented by the responsibility of increased duties, under circumstances most trying to untrammelled practitioners; the melancholy warnings coming to him in the martyrdom of Drs. Alden, Cameron, and Curtiss, assistant physicians,—can it be matter of surprise that, with a mind so tried and a frame so exposed, frail humanity should have sunk under the

ordeal, and Dr. Doane have become the victim of a combination of duties and labor disproportionate to the endurance of ordinary constitutions. Well-timed, indeed, and justly merited, were the resolutions passed by the board subsequent to the decease of this lamented gentleman. In justice to those who framed them, and to the memory of departed worth, I have here transcribed them :—

Resolved, That the Commissioners of Emigration are deeply sensible of the public loss sustained by the death of Dr. A. Sidney Doane, from disease contracted in the fearless discharge of public duty, and the service of humanity.

Resolved, That his professional acquirements, his talents, energy, devotion to duty, and intrepidity in its discharge, were peculiarly and constantly displayed in his relation to the commission as health-officer of the port of New York, and physician-in-chief to the Marine Hospital.

In the report of this year, I discover the first attempt to give any statistics connected with the institution, in the shape of a report commenced by Dr. Doane at the time of his fatal seizure, and incorporated by the commissioners with their annual report. This practice, it is gratifying to perceive, has been continued in the two last reports, on an improving scale, and by a recent act has been required by the Legislature. We have no doubt they will be made most complete, practical, and useful, by Dr. Vaché.

The great increase of immigration during 1851, and the operation of many aggravating causes of disease, produced a corresponding increase in the number of admissions to the Marine Hospital during 1852. The whole number under treatment during the year was 8,887. "This," says the report, "is a greater number than in any preceding year, even including the years before the Marine Hospital was specially appropriated for the reception of infectious or contagious diseases." Additional shanties were built on the hospital grounds, and resort was had to the adjoining stores of the U. S. Government. In addition to the malignant form of ship fever prevailing in the earlier part of the year, the hospitals were invaded by Asiatic cholera during the summer.

The commissioners somewhat reluctantly indicate that their confidence in the scheme of combining the chief offices at the station in the same individual was broken. They fell back, however, upon the act of 1851, and placed the medical treatment under the charge of a chief physician, assisted by a sufficient number of salaried physicians employed by the year for the regular duty, with such additional, temporary medical aid as necessity might require. And a separate office of superintendent, was also established. In April, 1853, an act in amendment was passed by the Legislature, restoring this power to the board, and continuing the duties and remuneration provided by the former act; also placing the appointment of the assistants, nurses,

&c. in the hands of the chief physician, subject to the approval of the commissioners. This is as it ought to be in all respects save one. The remuneration is inadequate. The personal sacrifices and risks run by the gentlemen who fill these appointments, require that such a compensation should be provided as would render them to a certain extent independent of the casualties of their post, and enable them after a term of years to retire with a competency sufficient to maintain them comfortably in the decline of life, or in the fierce battle to regain lost position in the arena of private practice. I care not from whence the compensation is provided; if the funds of the commissioners are insufficient, let the State supply the deficiency. If nothing more can be done, let the commissioners pay the premium on a life policy for a respectable amount, in behalf of their families, during their tenure of office.

(To be continued.)

REPORTS.

Cholera.—The leading feature of the past month, in a sanitary point of view, is the advent of cholera to the city; its appearance, also, in other parts of the Union, would prove this visitation to depend upon some general zymotic influence, and not, as has been asserted with reference to this city, on direct importation of the contagion through the medium of immigrants. It is well known, that during the last two summers, cholera prevailed to a considerable extent among the immigrant vessels; that there was, all through the season, more or less of it at Staten Island quarantine station, and *not* a few sporadic cases in the city itself and the various institutions appropriated to the reception and relief of the sick; yet it was by no means general, not in fact considered to be, or at least not then called, epidemic. The accounts received, during the past few months, of its appearance in England, Scotland, and Ireland, and in some portions of the continent of Europe, to which it has been hitherto a comparative stranger, ought, naturally, to have prepared the public mind, on this side the Atlantic for the probability of its occurrence here; and, now that it is upon us, it behooves us to use every possible means to stay its progress, and aid and relieve its victims when assailed. From the frequency of its return, the general character of its results everywhere, and the somewhat modified nature of its malignancy, we may now regard it as a periodic epidemic, obeying certain laws analogous to, if not identical with, those which regulate all the more common forms of epidemic diseases known to the profession, and not as an erratic visitant from a distant locality, where its permanence and other characters have placed it among the endemic diseases peculiar to that climate and region. Notwithstanding the greater familiarity acquired, of late years, in different

parts of this and other countries, it may be fairly questioned whether the profession have arrived at any definite opinion, either as to the absolute nature of the disease, or as to the most efficient and successful mode of treatment. It is, however, encouraging to know, that some progress seems to have been made in the latter respect; for the comparative results given by the published returns of the hospitals in Great Britain, exhibit a larger proportion of recoveries in this over former epidemics.

Whether this is altogether to be attributed to a better understanding of the pathology, and a consequent improvement in the therapeutic management of the disease, is an important and interesting question; or it may be that the disease itself manifests such modification of its severity, at each successive outbreak, as has been observed to have been the fact, during the early history of some now familiar diseases.

In those cases which have appeared in the hospitals of this city, it would be unfair, as yet, to found an opinion upon the results, inasmuch as, in the majority of cases, the disease has attacked patients already enfeebled by existing disease, or not yet fully convalescent from the effects of recent illness. In many instances, the disease has occurred in wards in which there had been no communication with those suffering under it; and in one instance, the disease broke out in the wards before any cases had been admitted from abroad. The facts connected with its progress will appear, under the heading of each institution.

The Board of Health have organized a central hospital in this city, in Franklin street, to which all cases occurring in the other institutions, and among those who usually resort to public charities for treatment, are to be carried. I have not as yet learned who are to be the staff of this hospital, nor, if appointed, whether they have determined on any systematic mode of treatment; but in the next issue I shall be enabled to give some interesting details connected with these particulars, as well as the general results. The Board of Health of Brooklyn city, have also centralized their cases, by the establishment of an hospital in Lafayette avenue.

The mortuary returns of the City Inspector, for the last two weeks, give 102 as the total number of deaths from the disease. As far as I have been able to discover, the principal localities from whence the cases hitherto occurring have been brought, are Anthony, Water, and Cherry streets—precisely the spots whence one would anticipate all malignant disease to spring. It cannot be denied that, however efficient the police arrangements of the city may be, that department which has the supervision of the hygienic arrangements, are either sadly deficient in the means of fully carrying out their views of the proper mode of cleansing the streets and thoroughfares, or ignorant of the best plan of accomplishing this important duty, and the grave responsibility occurring from its neglect. Much discussion has fre-

quently hitherto arisen as to whether, after an epidemic disease has made its appearance in a district or community, it is prudent to disturb the accumulations which are naturally supposed and universally allowed to be sources of noxious exhalations; and it has been a matter of much surprise to me, to hear the same doctrine mooted recently; but the wise of all countries have now fully made up their minds that, if nuisances at all, and sources of the generation or augmentation of disease, the sooner they are removed the better, both previous to and at any period during the prevalence of such epidemic.

There can be no reason why this should not be done in New York, perhaps more efficiently than in almost any other city with which I am acquainted. The position of the city between two wide and rapid channels of drainage and exit, the abundant internal supply of water, which might, with great ease be employed for the purposes of surface drainage and cleansing, and the facilities for sewerage, are such as few large cities enjoy.

Bellevue Hospital.—There have occurred ten cases of cholera in this hospital, some of which were brought into the wards from the city: one case occurred in a patient laboring under phthisis, in a separate ward from that in which the other cases were, and made its appearance at a very early period. *Two* cases out of the ten have recovered. Treatment has been very various: in the recovered cases, opium, quinine, and stimulants were employed. In other departments of the institution there has not been much to require comment. There has been a very interesting postmortem, of a case of psoas abscess, revealing extensive carious degeneration of the internal surface of the left os ilium, and large communicating collections of pus under the fascia lata of the thigh. The constitution of the patient was exhausted by hectic, before she was brought under treatment.

Ward's Island.—The new operating theatre at this hospital, was inaugurated on Saturday, the 24th ultimo, by an amputation of the shoulder joint, the second which has been performed within a very short period at this institution. The disease for which the operation was undertaken, was a large tumor involving the upper part of the humerus, encroaching very much on the shoulder joint, and extending into the axilla: so much was the shoulder implicated, that it was supposed it might be necessary to remove also a portion of the acromion and the scapular extremity of the clavicle; this, however, was found, during the progress of the operation, to be unnecessary. As in the former instance reported in this journal, a transient ligature was passed under the subclavian artery, as a precautionary measure; the extent and situation of the disease inducing the belief that it would be impracticable to secure the brachial or axillary artery, which might be more

or less involved in the general mass of the disease; moreover, the enfeebled condition of the patient made it desirable to guard against all avoidable hæmorrhage. The subclavian was, owing to the altered relation of the parts caused by the disease, more difficult of access than ordinarily. This operation, usually regarded as a formidable one, and in the hands of most surgeons regarded as a *chef-d'œuvre*, would seem to be an unnecessary complication; but under the peculiar circumstances attending these cases, there can be no doubt that it was not only justifiable, but a very prudent and scientific procedure, nor was it attended or followed by any untoward or unpleasant consequences in the case of Murphy. The incisions were made as recommended by Larrey, and similar to those used in the former case alluded to. On making the longitudinal incision, a rush of dark, venous blood took place. The external incision was then commenced, the knife carried under and around the arm to the point of departure: a trifling amount of dissection then permitted the disarticulation of the bone. The axillary artery was then secured, being found sound and free enough. The patient bore the operation very well, considering her enfeebled condition, and reaction took place within four hours after its completion. The disease appeared to be of an osteo-sanguineous character; the bone was much expanded and disintegrated. I have not yet, however, had an opportunity of examining the pathological condition of the parts.

The arrangements of the room, the light, the ample space afforded to the operator and his assistants, were found to be all that could be desired, and render this theatre one of the best in the city.

As an instance of the value of this hospital for the purposes of clinical instruction, arising from the large number and proportion of surgical cases admitted, I may mention that, three weeks ago, Dr. Carnochan had an opportunity of performing two amputations of the thigh, of a different character, on the same day, pointing out the leading principles which guide the surgeon in deciding upon the points and mode of operating. In one, a case of disease of the tibia and joint, affording space for the operation low down, the circular method was adopted, in order to preserve as long a stump as possible, and because the tissues at this point do not admit of such a serviceable flap. In the other, a case of disease of the joint and coverings and lower extremity of the femur, the operator was compelled to make his election higher up; and therefore the double antero-posterior flaps were preferred, there being ample room and plenty of substance and integument.

In addition to these, there has been an amputation close below the knee, by the single flap, after the method of Verdouin. A case of large ranula, and one of entropion, were also operated on.

There has been, in some of the minor cases of operation, a tendency to

gangrene of a serious type; it has, however, yielded, in the majority of the cases, to treatment by black wash and Labarracque's solution.

The cases of cholera occurring at Ward's Island have been of a very malignant form, but fortunately not very numerous; being twelve in all, up to the time of our last information. The cases are removed, as speedily as they appear, to two isolated wards expressly devoted to their reception.

New York Hospital.—There have been treated in this institution, nine cases of cholera in all, of which four cases have recovered. The treatment adopted has been opium and acetate of lead, stimulants, and warmth. All cases are to be excluded in future; and those cases occurring in the wards are, if practicable, to be removed to the Cholera Hospital.

The wards are comparatively empty and void of notable cases. In the medical department, there is rather a curious case of what would seem to be intermittent *urticaria;* the external phenomena of the disease exhibiting themselves every second day with well-marked regularity—the intermission being perfect.

It appears to depend in some measure on gastric derangement, and not to be in any way connected with the periodical functions of the patient—a female. She was placed on quinine, and since then there has been a check to the return of the paroxysms.

Two well-marked cases of scurvy occurring among residents of the city, who had from peculiar reasons confined themselves to a meat diet—in one instance with an evident tendency to purpura—were speedily relieved by dietetic treatment.

PART V.—EDITORIAL AND MISCELLANEOUS.

PUBLICATION COMMITTEE OF THE NATIONAL ASSOCIATION.—The report of the proceedings of the American Medical Association, which we published in our last issue, made but slight allusion to the change of the majority of the Publication Committee from Philadelphia to New York. This was by no means accidental. Knowing that a great deal of feeling was manifested by some of the members of the Association, we preferred to wait and observe the expression of opinions by the various medical journals,

that we might not be accused of any desire to prejudice the minds of the profession at large. The entirely different course pursued by one of our city contemporaries would render any farther silence unwise, while from other journals there has been a sufficiently decided expression to sustain us in our position.

In speaking of the session, the editor of the *New York Medical Times* says:

"The only occurrence which seems to have at all disturbed the harmony of the meeting, was the transfer of the Publication Committee from Philadelphia to this city: the discussion of which is said to have elicited some personal and sectional feeling, while the decision led to the offer of the resignation, by his colleagues, of Dr. Condie, as Treasurer of the Association. We regret this measure on many accounts; the more especially as it will have a tendency to mar the cordial feeling which should exist between the sister cities, and will be particularly unpleasant when we visit them, as many of us hope to do, next year, and partake of their hospitalities. * * * * * The change is said to have been made in accordance with the expressed wishes of the New York delegation; and if so, we cannot believe that they fairly represented the wishes of their constituents. At least, we have never heard of any expression of opinion to that effect, and know that the measure is regretted by some of the strong friends of the Association among us. We regard it as the more unfortunate, from the fact that a resolution subsequently passed, that in future the printing for the year shall be executed at that city at which the meeting is held—a measure of questionable propriety, by the way, in its general application, but which in the present case, if confirmed at the next meeting, will transfer it back to Philadelphia, after an interval of one year only. A change could then have been made, if thought desirable by the majority; and thus the unpleasant feeling would have been spared, at least until after our meeting in that city." We confess that we entirely disagree in every opinion thus expressed by our esteemed *confrère*. But in order to a full understanding of the matter, and that the New York delegation may not thus lie under censure unjustly, we give an account of the whole matter, having made diligent inquiry to that end.

The member of the Nominating Committee from this State was Prof. J. P. White, of Buffalo—a gentleman, who, from his residence and position, has no sectional influences in favor of this city rather than Philadelphia; but who is in reality closely connected in his interests with the Western States. A majority of that committee was from the Southern and Western States, and not likely, by their position, to have an interest in any personal or sectional feeling between these two eastern cities. If, then, there had been any "expressed wishes of the New York delegation," we hardly know

how they could have been laid before more disinterested judges. Of the Association, a very large majority was from the Western States, and the final decision was thus in the hands of equally disinterested parties. It is very true, there was no instruction of the delegates from New York to accomplish this change, and few if any of the profession in this city ever thought of the change till it was accomplished. But certainly our delegates were sent to the meeting not to follow only their instructions, but to act on all questions according to the best of their judgment. When, then, the Nominating Committee offered the publishing of the proceedings to New York city, was our delegation to decline it, either because we could not do it here, or because we might possibly offend the very sensitive stomachs of the delegation from Philadelphia? Such a step would certainly have been regretted by the *strongest* friends of the Association in this city.

The course of our delegation was much better. With the exception of Dr. Sayre, who was not nominated on the Committee, and who rose to answer the strange question—Can the printing be done in New York?—not one of our city delegates uttered a word in behalf of the proposition, but it was left entirely to the judgment of the Association. They did not deny that we could print a volume quite as handsomely in New York as anywhere else, and it was understood that if the labor was put upon them, they would do it well and promptly. What other course could have been pursued that would meet with so general approval?

But our *confrère* says that the decision led to the offer of the resignation, by his colleagues, of Dr. Condie, as Treasurer. We may thus properly speak of the course pursued throughout by the Philadelphia delegation. Dr. Rene La Roche, of that city, was the member of the Nominating Committee from his State, and, of course, could oppose the change when proposed to the Committee. Before the Association, Dr. Biddle, of Philadelphia, spoke at length, and with considerable feeling, upon the subject. *Immediately after* the decision, Dr. Condie's name was withdrawn as Treasurer, by authority of the delegation, and, of course, not by his desire, as he was not present at the meeting. Dr. West, of Philadelphia, then presented his resignation, but it was not accepted. A quiet suggestion that perhaps the delegation would withdraw the invitation to the Association to visit that city, brought them to see the light in which their apparent petulance was regarded.

Why so much desire was manifested to retain this Committee in Philadelphia, we are at some loss to know. If their duties were laborious, they would not refuse to allow others to relieve them of their labors. If they were honorable, they *ought* not to refuse to allow other members of the Association to share in the honor.

Some indication of the reasons which moved the Association to make

this charge, is given by the following extract from the June number of the *Nashville* (*Tenn.*) *Jour. of Medicine and Surgery*, both the editors of which were present at the meeting:—

"In addition to the just law of rotation in office, whether of labor, honor, love, or profit, all things being equal, there were some other reasons why the publishing committee should be changed from Philadelphia to New York. One was, that the publication of a single communication in the last volume of the Transactions of the Association, coming from a Philadelphia physician, had cost from $1,000 to $1,100. As this was alleged against our old preceptor, Dr. M., an explanation was called for, and made, we trust, to the satisfaction of all—that in presenting his article at the last meeting, Dr. M. stated it would cost a large amount for the illustrations, and no objections being thus offered to its publication, the Society was said to have sanctioned the issuing of the expensive plates. Another reason assigned we only learned after the meeting adjourned; it was, that the report of a New York member was denied admission into the Transactions by the Committee on Publication. This has since been issued from the press as an independent work, and is said to be of great value."

As to this latter reason, we never before heard of it, and after some inquiry, have not yet ascertained to what or to whom reference is made. As to the former, it is what was some months ago stated in a review of the transactions published in the MONTHLY, only we venture the opinion that the amount is nearer $1,600. The excuse hardly does justice to the facts. If our memory serves us right, the Treasurer, at the meeting, asked for a larger assessment to meet the expense of publishing a *very valuable* paper, and rumor said it was Prof. Meigs's to which he alluded. Dr. M., when his report was called for, rose with a large portfolio in his hand, and said the report was long and not *fit* to be *read publicly*, and requested that it might be referred to the Committee on Publication, which, out of courtesy to him, was done; but no member of the Association, except those from Philadelphia, had, so far as appeared, seen the article, and the fact that no objections were offered, hardly warrants the statement that the Society "sanctioned the issuing of the expensive plates."

The *Virginia Journal* is pleased to speak of the discussion on this question as "a struggle after the spoils." If the reports published by the St. Louis papers, and the copy of the Minutes, by some partiality accorded to one medical journal, are correct, it appears not to have been a struggle between the delegates of New York and Philadelphia, while it would be indeed difficult to say what *spoils* were counted upon, except labor without pay.

But our *confrère*, from whom we first quoted, especially regrets this measure, because it may mar the cordial feeling which should exist between sister cities, &c. We confess we have no fear of the kind. We are aware

that our neighbors sometimes call their city the medical metropolis; but there is no prescriptive right in Philadelphia to publish the transactions of this body, and we have no doubt that our committee will show the profession that it can be done at least as well here. Neither have we supposed that they would next year stand up and pout, or refuse to recognize a New Yorker, or refuse to extend any civilities to us because the Association put a certain amount of labor upon a portion of our delegation. By no means do we think so ill of Philadelphians, and have no doubt that New Yorkers will be as cordially welcomed to that city of brotherly love as delegates from any part of the country.

A subsequent resolution provides that the printing of the Association shall hereafter be under the direction of a committee of members from the place where the meeting is held—an arrangement in every way admirable. Let the honor—if there is any—and the labor be divided. Let us bring into competition the printers of different cities, and we are sure the "Transactions" will not suffer. And we here warn our friends, that they will have hard work to go beyond the New York printing.

In conclusion, to show that *we* have not misjudged the profession in Philadelphia, we quote the following from the June number of the Philadelphia Medical Examiner:—

"The discussion of the proposed removal was animated, but conducted with entire courtesy and good feeling. And, in referring to the topic, we beg to say, that we bow most cheerfully to the expressed decision of the Association, in the exercise of its undoubted right upon the subject, and that we have every reason to anticipate that the zeal and industry of our friends in New York will do early and ample justice to the papers committed to their hands."

OUR DOMESTIC EXCHANGES.—It would seem but gracious, to say the least of it, to show that we do not neglect our contemporaries to the extent of never looking into them, however much we may be opposed to the idea of "cutting them up"—a process literally necessary in those instances where the binder is prohibited from using his trimmer. It is now, however, our serious intention to wipe off a long score of arrearage in the way of notices, with the assurance that if we do not always follow this plan, it is simply because we have not space at our command,—and not that we underrate the value of their contents.

Boston Medical and Surgical Journal.—Since Dr. Smith's elevation to the mayoralty of his city, he has associated with him Dr. George S. Jones

in the editorial management of this old established weekly. We have no doubt that the collaboration will be continued with the same judgment and industry as ever; but we confess to a sense of diminished zest while reading the leaders; there seems to be a want of the spiciness which formerly characterized them; and, after all, the editorial department is the main feature of a weekly periodical.

Philadelphia. The American Journal of Medical Science.—This quarterly evinces the usual amount of careful preparation, so characteristic of its indefatigable editor, and always comes freighted with original matter of much value. Among the latter may be noticed Dr. Rene La Roche's observations on black vomit, published in the last two numbers. This is one of the most concise monographs which has ever appeared on the subject. The writer reviews with care and candor all the literature connected with it; enters minutely into the physiology and pathology of the phenomenon; considers its value as a diagnostic symptom, and as a means of prognosis; analyzes, critically, the physical appearances, as presented by the microscope and by the unaided eye, its chemical composition and reaction; reviews all the opinions as to its nature; and sums up the whole with the enunciation of his own conviction—"it is the product of an hæmorrhagic effusion from the capillary vessels of the mucous coat of the stomach and bowels; in other words, blood, real, though somewhat modified in its texture." We content ourselves with this brief notice of the admirable paper at present; as we contemplate a more extended view of the subject at a future season, when we may perhaps question some of the author's conclusions, especially in reference to yellow fever, of which "black vomit" is still, by many practitioners, considered to be a distinctive pathognomonic sign.

Dr. Morland, in the "Records of the Boston Society for Medical Improvement," reports a case of successful excision of the head of the femur, by Dr. *Parkman*, in a case of ulcerative inflammation of the joint. In the same records appears a report of two cases of croup successfully treated by nitrate of silver, a solution of ℈ii. to the ounce being passed into the trachea.

Dr. *Buel* gives a very interesting series of notes on the catastrophe of the San Francisco steamer. He gives the following *résumé* of the conditional causes of disease and death among the survivors of the wreck: *Moral causes*—Fear, anxiety, and suspense. *Physical causes*—Overcrowding and want of ventilation, cold and wet, insufficient and unwholesome diet. Under this heading he states that, from the inability to keep up fire for cooking purposes, raw pork, hard biscuit and water were the chief diet. "Thus, it appears," says Dr. Buel, "that on board the San Francisco, there were in

active operation all those influences which, everywhere, and under all circumstances, tend invariably to the production and development of disease in the human system." After commenting on the paucity of our means of explaining the specific cause of diseases, he adds, "there is to all diseases a period of incubation, distinct and definite in exanthemata, less so, but still well marked, in fevers and other diseases. This period of incubation sufficiently defines the period of the development of disease in emigrant vessels. When the cholera manifested its existence on board the San Francisco, that vessel had been about seven days out of port, between five and six of them subsequent to the wreck. *Thus, the incubation period corresponds almost exactly with that of the emigrant ships.*" Of the mortality, he thus speaks: "The wreck of the *San Francisco* occurred on the night of Friday the 23d, and morning of Saturday, the 24th December. On Wednesday, 29th, about one hundred of those who survived the storm and wreck were taken off by the *Kilby*. It is somewhat remarkable that, among the rescued of this company, though they suffered many hardships, and were on short allowance, no death occurred. On the 30th, cholera appeared. January 5th and 6th the survivors were transferred to the *Three Bells* and *Antarctic;* during this period about sixty died. Of 750 persons who embarked in the ill-fated steamer, 130 were washed overboard, 90 perished by cholera, and 530 reached New York in safety, after heavy privations and hardships.

The Medical Examiner, under the editorial management of Dr. Hollingsworth, sustains its character and usefulness; he is assisted by a strong corps of collaborators. In the May number there is a well compiled and interesting paper on the mortality of Philadelphia. The following remarks are most worthy of attention:

"Exclusive of still-born, external or accidental causes, old age, debility, and unknown, we have left 2,140 deaths from recorded diseases, distinguished by 148 different names; many of them, it is true, almost as indefinite and as obscure for scientific purposes, as those set down under the head of debility or unknown. The loose and imperfect plan of certification, in cases of death, is justly to be deplored; nor until there is a more discriminate system substituted for the present *generalizing* practice, can we have for reference an intelligible and profitable record.

The Medical News and Library, valuable for its own peculiar contents, is always rendered more so by the incorporation of sixteen pages of some work in course of republication. By this means many become possessed of valuable books at a very reasonable rate. Bennett on Tuberculosis is the work at present in course of issue.

Virginia Medical and Surgical Journal.—A recent change has occurred in the editorial corps of this journal. Dr. Otis, for some time most favora-

bly known to its readers, relinquishes his former position in consequence of his removal to another locality, but is still associated with the journal as corresponding editor, and will, we presume, continue his translations from the foreign press. He is succeeded by Dr. J. F. Peebles, of Petersburg, of whom report speaks most favorably, and who is not unknown in the records of professional literature.

On the 25th of May an election to fill two chairs in the Medical College of Virginia took place. The chairs had been thrown open under the new charter of incorporation to free competition. There were seventeen candidates, and the result has been the appointment of Dr. Beverly R. Wellford, of Fredericksburg, to the chair of Materia Medica, and M. Brown Sequard, to that of the Institutes of Medicine.

In the last number there is an article by Dr. Anderson, in continuation of some papers formerly published in the Stethescope, on "what he conceived to be the fundamental principles upon which all medical investigation must ultimately be based, in order to arrive at just and scientific conclusions." Having promised to make a practical application of this principle, he proceeds to do so by the present paper on fever. "I am aware," says Dr. A., "that I shall be occupying a position antagonistic to nearly the entire profession. But a desire to strip our science of some of the mystery which has been most improperly and unnecessarily thrown around it, as well as to attract the attention of other and abler minds to this subject, is my sole apology for this adventurous step." We confess that the mysticism has been rather increased than otherwise by a perusal of this document; we shall, however, try it a second time; we may then be able more fully to comprehend it. He does not believe in idiopathic fever, nor in continued fever, fancies there may be a specific virus generated, and is perfectly certain of the *localization* of fever. And, therefore, to cure fever, we must get rid of the previously existing inflammation.

The Stethescope has also changed hands. Dr. Gooch, who raised it to its position among the journals, having left it entirely, it has become the property of the Medical Society of Virginia, conducted for the first four months by Drs. Hoxall, Bolton, Lewis, Merritt, and Cabell, with whom, since May, have been associated Drs. Wilson and Higginbotham. We regret to find in the report of the proceedings of the society, a spirit of party and a *force* of language little calculated to promote scientific truth and professional fellowship. Men may surely differ in opinion without making that difference a source of discord. In the May number is a very able paper by Dr. Peebles, one of the editors of the *Medical and Surgical Journal*, on intermittent fever. This Essay obtained the prize offered by the society.

In the editorial of the June number, the following *rather* caustic character is drawn of the condition of the profession:

"We know there are *hoary-headed sinners* and apt fledglings, their pupils and imitators, who have been smuggled in our ranks—men who spend their lives in envy of the well-earned reputation of a high-souled neighbor; whose exploits are confined to undermining insinuations and sneaking forays—land-pirates and professional petty larceners—(we are describing a genus of many varieties, and would not confess to their existence, if we were not inditing a *confidential* FAMILY EPISTLE)—men whose only talent is displayed in the adroitness with which they cover up their deeds and confine themselves to such small operations as give them immunity from the cowskin—hypocrites without shame, and liars without remorse."!

The remedy proposed by the Stethescope for ridding the profession of such ensamples, or rather, keeping them out of it, is "the establishment of local societies, and the *practical* and stern enforcement of the provisions of our code of ethics." ‡

A WORD TO THE NON-MEDICAL PUBLIC.—It is fairly to be presumed that some of our citizens, not within the ranks of the profession, occasionally look over the pages of the MONTHLY; we therefore design the following remarks for their especial benefit. We are actuated to take this course also from the recollection of an observation overheard by us, perhaps inadvertently made in our presence, that there never was anything in the MONTHLY which a layman could read with profit. Now, we are not prepared to admit the justice of this remark, nor is it our present intention to refute it by argument and illustration; we simply use the occasion and the remark, as the text of what we desire to say to our lay friends. The alarm taken by the community at the approach of epidemic cholera, frequently suggests to the mind of patients the necessity and prudence of taking their physician's advice upon the subject of their regimen and diet: and occurring, as at present, at a season of the year when fruit is plentiful, no question is more frequently asked than, "Doctor, can I eat fruit?"

To our mind the question, "Doctor, can I sleep?" would appear to be as proper and as wise.

If we contemplate the harmony and order which prevail in the recurrence of the seasons, and the productions of a vegetable character peculiar to each, we must arrive at the conclusion that, in providing so great a variety, in such abundance, and of such grateful and pleasant qualities at this season of the year, God in his wise providence intended that his creatures should avail themselves freely of his abundance and goodness. We find not only this peculiar supply granted to us in our climate at this

season, but we observe that in other countries where the climate more or less resembles our summer, the same benevolent provision of succulent and nutritious fruit obtains. Nor is this all that can be said—for it is now generally well understood by all intelligent people, that there are in every climate, and at every season, certain productions which are peculiarly adapted as correctives, possessing, in fact, medicinal as well as nutritive properties, in addition to their palatable qualities. The spices and condiments of tropical climates, more sparsely produced in temperate regions—produced, in fine, in proportion to the amount and kind of vegetable diet growing and employed by their inhabitants; the juicy, subacid, and fragrant orange and berry tribes, so plentiful in hot seasons—the former in tropical, the latter in temperate countries; the melon common to both; *cum pluribus aliis.* We have written enough for illustration; our deduction from these examples is, that all this wholesome and abundant supply of nutritious and beneficial articles of diet, has been bestowed designedly for our use, under the circumstances when they are most required, and that, therefore, it is not only right to eat fruit at this season, notwithstanding the cholera, but that it would be wrong and ungrateful to abstain from the use of that which was intended for our benefit and gratification.

Having said so much, it is necessary that we should say something more. While advocating the *use* and enjoyment of fruits in their season, we must not be supposed to give countenance to the *abuse* of them. Let us be explicit, and show what we consider to be the abuse which we thus strenuously repudiate.

Partaking immoderately, even of the ripest and best fruit, is as injurious as drinking to excess, opium eating, or surfeiting of any kind.

The eating of *unripe* fruit, too much the custom, even when prepared by the most skilfully conducted culinary operations, and enticingly presented in the garniture of paste and frosting is unsafe.

Eating fruit at improper hours, ripe as well as unripe, is highly pernicious. How injudicious, for instance, to partake of a full repast of fruit immediately before retiring to rest? The nervous supply required by the stomach to carry on digestion, is undoubtedly materially diminished, if not altogether withheld during the hours of sleep. The old nursery adage, "Fruit is gold in the morning, silver at noon, and lead at night," is not without its wisdom and pertinency.

Eating fruit, which, however palatable, is found by experience to produce any unpleasant effects upon the system, owing to some peculiarity (what we doctors call idiosyncrasy) of the constitution, should be resolutely avoided.

Finally, eat fruit moderately, and at proper times; let it be perfectly ripe, yet not decaying: and we venture to predict that if you take the ordi-

nary precautions used by all prudent persons, at all times, but particularly during the prevalence of epidemic diseases, viz., cleanliness, exercise, sufficient rest, moderation in diet, and abstinence from all sources of exhaustion and nervous prostration, taking care at the same time not to expose the person unheedfully or unnecessarily to the influence of infected localities—and we have no doubt that you will run no greater risk of contracting or dying from the disease, than you would do were you entirely to abandon the participation of those beautiful and pleasant gifts of the Creator's bounty—"the fruit-tree yielding fruit after his kind, whose seed is in itself," "every tree that is pleasant to the sight and good for food." ‡

COUP-DE-SOLEIL, OR SUNSTROKE.—In connection with the purpose of the foregoing article, we append a few general hints on a severe and not unfrequently a fatal casualty, which is apt to occur during the hot months of our summer, especially in a crowded city, and principally among those engaged in active and violent exertion while exposed to the rays of the sun, and hence called *coup-de-soleil*, or *sunstroke.*

Many fatal errors are committed in the first moments of alarm on the occurrence of this accident,—errors, the evil consequences of which all the subsequent skill and care of the physician are sometimes ineffectual in remedying. The prominent symptoms of the attack are giddiness, faintness, amounting in some instances to complete insensibility or apparent death.

The first and the best thing to be accomplished, is to remove the patient into a cool room or shady spot, laying him carefully on the back, with the head very slightly, if at all, raised. *Send for a physician.* Sprinkle the face with cool water, untie all strings, handkerchiefs, or bandages from the throat, chest, or waist. Rub the hands and feet briskly, and if the patient can swallow, administer a little brandy and water, or a little spirits of hartshorn in water, *in small quantities at a time.* Promote free respiration by fanning and preventing the crowding of persons around. Prevent strenuously the drinking of large draughts of cold water, however urgent the request of the patient may be, until reaction takes place.

If there should be any delay in the arrival of a physician, and the patient should not rally, the rubbing of the limbs must be continued, and in addition, mustard poultices may be applied over the soles of the feet and the pit of the stomach, and an emetic of mustard and water may be administered, particularly if the patient, as is too often the case, immediately previous to his seizure, has been drinking cold water in large quantity. Such precautions judiciously, consistently, and perseveringly used, will frequently

restore animation and produce reaction, after which the patient must be treated by a physician. ‡

ERRATA.—By some accident, two or three errors crept into the report of the proceedings of the A. M. Association last month. On p. 470, eighth line from the bottom, for Dr. *Dowell*, read Dr. *Mc*Dowell. On p. 472, for Dr. *Jayne*, read Dr. *Sayre*.

MASSACHUSETTS GENERAL HOSPITAL.—During a recent visit to Boston, we had the pleasure of carefully inspecting this Institution, by the kind attention of Dr. M. S. Perry, one of the medical staff. It is small, at least compared with the hospitals of this city, but is most admirably arranged, especially in the newer parts of the building. There are four wards containing twenty beds each, with several smaller rooms, the accommodation being in the whole about one hundred and twenty-five beds. The larger wards are very handsomely finished, the walls being painted in imitation of Sienna marble, and kept very neat and clean, while the tidy white counterpanes gave to the beds a much pleasanter appearance than the usual blue and white check. Ventilation is well provided for; and we were informed that the air of the wards is almost invariably free from everything offensive. The kitchen and laundry are in a separate building, and are models worthy of imitation. A new building is to be constructed for the reception of patients laboring under contagious diseases—these not having been heretofore received by this hospital. The Institution well repays one for the time spent in visiting it.

ST. LUKE'S HOSPITAL.—On the 6th of May the corner-stone of this new hospital was laid by the Right Rev. Bishop Wainwright. The location is on Fifth avenue, between Fifty-fourth and Fifty-fifth streets, and about four miles from the City Hall. The idea of the hospital was conceived by the Rev. Dr. Muhlenberg, and it is very much to his exertions that the enterprize owes the success it has met. It is an institution of the Protestant Episcopal Church, and we presume its medical staff will be selected from among Churchmen. Still, its doors will be open to all the sick, irrespective of nation, creed, sect, color, or name.

The building, which is to be of brick, will consist of two wings, with a chapel between. In each wing there will be two wards, capable of receiving comfortably fifty beds a-piece. The estimated cost of the whole is $150,000. The following are some of its dimensions: Whole length of

the building, 280 feet; depth of wings, 66 feet; depth of chapel, 83 feet; internal height of wards, 14 feet.

CORRESPONDENCE.

[The following letter is from a correspondent at the East, and we shall be happy to receive similar intelligence from any other section of the Union.—EDITOR A. M. M.]

Concord, N. H., June 7, 1854.

MR. EDITOR:—

The New Hampshire State Medical Society has just held its anniversary at this place, and a brief account of its proceedings may perhaps be acceptable to the readers of your journal.

This State Society is one of the three or four oldest in the country, this being its sixty-third annual meeting. It was never in so flourishing and influential a condition as at present, and never before received so large an accession of new members at any anniversary, as at this. It has never, however, included a majority of the practitioners in the State; though it has always, I believe, included all whose reputation as practitioners extends beyond its limits.

The Society was in session during the whole of yesterday, and the forenoon of to-day; and I can therefore only glance at some of the most prominent of its transactions.

The annual address by the President, Dr. Albert Smith, Professor of Materia Medica, in Dartmouth College, was a very able and interesting performance, and both written and delivered in the author's characteristic, agreeable style. Its subject was "Conservatism in Medicine." Dr. S. would guard us against the ultraism of the various newer phases of quackery on the one hand, and the equally absurd reverence for whatever is old, merely *because* it is old, on the other. The idea so often inculcated, though so absurd, of studying *old medical books*, to the neglect of recent publications, was particularly noticed as productive of much mischief and loss of time. In the course of his address, the motto of the MONTHLY—"*Non progredi est regredi*,"—was introduced; and in a way that the journal received no detriment at the speaker's hands.

Dr. Mussey, of Cincinnati, being present, was desired to make some remarks after the President had closed, and responded to the request in a concise and very apposite manner. He was one of the oldest living members of the Society, and had for several years been its President, while resident in this State. In the course of his remarks, he observed that on the

whole, he thought he felt glad that he had chosen the practice of medicine as his profession. There is not one of the many thousands who know him, who will not cordially sympathize with him in this feeling. And how delightful to see in our profession such an example of modesty and integrity—of the highest professional, combined with the highest moral worth—as here stood before us! He seemed in perfect health, and though now having passed the limits assigned to human life, is still actively performing all the arduous duties of a large practice, and all the most difficult surgical operations, still manifesting a "green old age," which abates not in the scientific enthusiasm which characterized his earlier years, and keeps pace with all true progress in the various departments of medicine. May such an example long be preserved to us.

"Serus in cœlum redeas, diuque,
Lætus intersis populo."

Gov. Martin responded to the remarks of Dr. Mussey; and, with a felicity of expression and manner which but few governors can be found to imitate, thanked him for the instructions he had received of him when a medical pupil, and accorded to them a predominating influence upon the whole course of his life, and the success of his professional career.

It is a fact not without interest, that Maine and New Hampshire were both *governed* by physicians at the same time—Dr. Hubbard, of Hallowell, being the chief magistrate of Maine, and Dr. Martin, of Dover, of New Hampshire. And both of these gentlemen, after doing honor to the gubernatorial chair, for two years, have resumed the higher duties of their profession, from which they had for a time withdrawn in obedience to the suffrages of their fellow citizens.

The orators elect for this anniversary were Dr. A. McFarland, formerly Superintendent of the State Lunatic Asylum, and Dr. W. H. H. Mason, of Wolfborough. The former gave an elegant and elaborate essay on the "Practical Element in Medicine." Dr. Mason's subject was, "The Importance of Chemistry and Microscopy as Aids in Diagnosis and Therapeutics;" and his discourse was pointed, discriminating, and highly practical.

Several interesting discussions occurred during the session. One was elicited by the statement, by the Secretary, that Dr. Wm. Prescott, an *honorary* member, I believe, has of late been giving his influence in promoting the sale of a certain nostrum (some kind of "Catholicon," if I mistake not). A resolution was adopted requiring him to render an explanation to the Society of the course he had pursued. Some thought this a case in which more honor was conferred than returned.

The interesting account of the progress of Homœopathy, in a certain

part of the State, where it had had the whole field to itself for several years past, was also given. It appears that it is here evidently dying out, though it has had everything in its own way. We have only to stand entirely aloof from it, as a profession, and it will die spontaneously, in a brief space of time, throughout the land. But so long as the regularly constituted medical colleges will, for *pay*, confer diplomas upon those known to be intending to engage in this system of irregular practice—so long it will attach itself to the profession and eke out an existence. A committee was appointed a year since, to ascertain the names and plans of graduation of all the practitioners in the State, and reported, in part, at this meeting. When it shall have completed its labors, it will appear what schools are most instrumental in encouraging this phase of irregular practice. I am happy to say that the Medical College in this State has, for several years, refused to examine for the degree of M. D., any who intend to engage in any other than the regular practice of medicine. This Society is determined to keep aloof from all uncleanness of this kind, and in this respect, perhaps, deserves the consideration of its sister institution in Massachusetts.

Numerous practical subjects were also discussed; but I will bring this hasty notice to a close.

The principal officers for the present year are: J. S. Fernald, Barrington—*President;* A. Smalley, Lyme—*Vice President;* E. K. Webster, Boscawen—*Secretary.*

NEO HANTONIENSIS.

NORTH GEORGETOWN, COLUMBIANA CO., OHIO,
June 19th, '54.

* * * * * * *

Since I commenced practice in this place I had a case which, on account of some of the symptoms during life, and postmortem appearances, was interesting to me at least.

It was a case of abdominal dropsy. The history of the case was much as follows: Mr. F——, aged 49, about twenty years ago had a severe attack of bilious remittent fever, since which there was constantly more or less sallowness of the skin, though he enjoyed a reasonable degree of health, with the exception of frequently having extremely severe pains in the loins, at which times the urine was scanty and very high colored. Last fall the pain in the back ceased; and in a short time there came on an obstinate diarrhœa, accompanied by very severe pains in the bowels, especially in the lower part of the rectum. The diarrhœa stopped in December. Some time in January the patient discovered that his abdomen was enlarging; he then applied to quacks and quack nostrums for relief, but obtained none. About the first of April he fell into the hands of Dr. Brenton, now of Massillon, at that time residing in this place; the Doctor tells me that at that time, according to the best of his judgment, there was as much as ten gallons of water in

the abdominal cavity, with considerable œdema of the lower extremities. He, Dr. B., put him on a course of diuretics, which, by the first of May, when I took charge of the case, had reduced the enlargement about one-third. I used digitalis, squill, cantharides, spirits of nitre, ether, cicuta, mercury, and bitartrate of potash, which reduced the enlargement considerably. At one time, after he had been on digitalis about three weeks, the pulse fell to thirty-two beats in a minute, and remained as low as from that to thirty-four for about a week after the discontinuance of the medicine, when it gradually rose up to eighty a minute; in six or eight days more, during my attendance, he had frequently excessively severe pains in the lower part of the abdomen, and in the rectum and anus; the pains seemed spasmodic. As I did not wish to get the system under the influence of opium, I used other means to remove and prevent the pain, such as the internal use of hyosciamus and cicuta, the external application of belladonna, chloroform, and heat, the latter appeared to be the most efficient.

He died on the 6th instant. I made an autopsy about twenty hours after death, assisted by my friend and preceptor, Dr. Carey of Salem, Dr. Brenton, of Massillon, Dr. Sturgeon and other gentlemen of this place being present. We found about one and a half gallons of serum in the abdominal cavity, and the most perfect specimen of cirrhose or hobnail liver that could be exhibited; the mucous follicles of the large intestines bore marks of ulceration through their whole extent, being particularly well marked in the lower part of the rectum. There was but one kidney, the right one being entirely wanting; the left was about twice the ordinary size, having two pelves and two ureters, and was perfectly healthy.

Query.—What was the cause of the excruciating pain of which he had frequently complained for years? Was it caused by the bile remaining in the blood, and thus irritating the kidney?

I remain your friend,

JOHN G. MILLER, M. D.

Wurtzburg, April 6th.

A series of interesting experiments was made yesterday on the corpse of Gensler, who was put to death by the sword, for having committed murder by poisoning. Professors Wirchow, Kölliker, Müller, and Leidig, made microscopical and galvanical observations, the most prominent of which are: the microscopical representation of the ciliary movements in the third ventricle of the brain; further contraction of the iris by application of galvanic stimulus; and beautiful representation of muscular longitudinal stripes on a vein of the lever. Also, on the cremaster, which showed contractions for a longer time. The muscles of the thorax contracted for an hour after the decapitation. The corpse was subjected to anatomical investigations twenty-eight minutes after death. The temperature of the spot where the head was separated from the trunk was yet 29° R., whereas that of the room was 21° R. The head was separated from the trunk precisely at the atlas.—*Neue Med. Chirurg. Zeitung.*

From the Lower Danube, May the 8th.

The French and English Surgeons from Varna, visited our camp, and it is decided that wooden barracks should be established for the medical camp service on certain strategetical points. Kinstendshe, Varna, Eski, Schumla, Rasgrad, and Sophia, are chosen as places for the chief hospitals for the Europeans. The English erect their hospital at Varna, on an elevation commanding the town and port. The French established it in Schumla; the Turkish chief hospital is at Kutkzuk, Kainardschi.

Wien. Med. Wochenschrift.

THE following circular has been issued by the Treasurer of the National Association, and explains itself. We copy it for the benefit of those who may not receive a copy, calling especial attention to the fact that payment should not be delayed.

At the meeting of the American Medical Association, held at St. Louis, in May last, the following resolutions were adopted, viz.

Resolved, That the sum of three dollars, annually, be assessed upon each of the Delegates to the Sessions of the Association, as well as upon each of its permanent members, for the purpose of raising a fund to defray the expense of printing the Transactions. The payment of this assessment shall be required of the Delegates and Members in attendance upon the Sessions of the Association, previously to their taking their seats and participating in the business of the Session, and of all others, on or before the first day of September, in each year.

Resolved, That each Delegate and Member who has paid his annual assessment, in accordance with the terms of the above resolution, shall be entitled to receive a copy of the printed Transactions of the Session.

Resolved, That the name of no one shall be inserted or continued on the list of permanent Members of the Association, who shall refuse or neglect to pay his annual assessment, in accordance with the terms of the first resolution.

The immediate attention of all members who have not complied with the requisitions contained in the above resolutions, is respectfully, but earnestly requested. The Publishing Committee, of which Dr. Pliny Earle is chairman, is desirous of putting the Transactions to press as soon as practicable; this cannot be done, however, until some idea can be formed of the number of copies required, and *this* can only be arrived at, from the number of members being known, who have actually paid the assessment alluded to. It will be observed, should any member delay payment until the first of September, he may be unable to obtain a copy of the Transactions.

Members will please be particular, when sending their dues and orders for copies, to give the name of town or city, county and State, as well as their own names, clearly and distinctly written, in order that mistakes may be avoided in transmitting the volume,—also, express their wishes as to the mode of forwarding the Transactions.

Respectfully,

ISAAC WOOD, *Treasurer*,

New York, June 13th, 1854. 68 East 17th street.